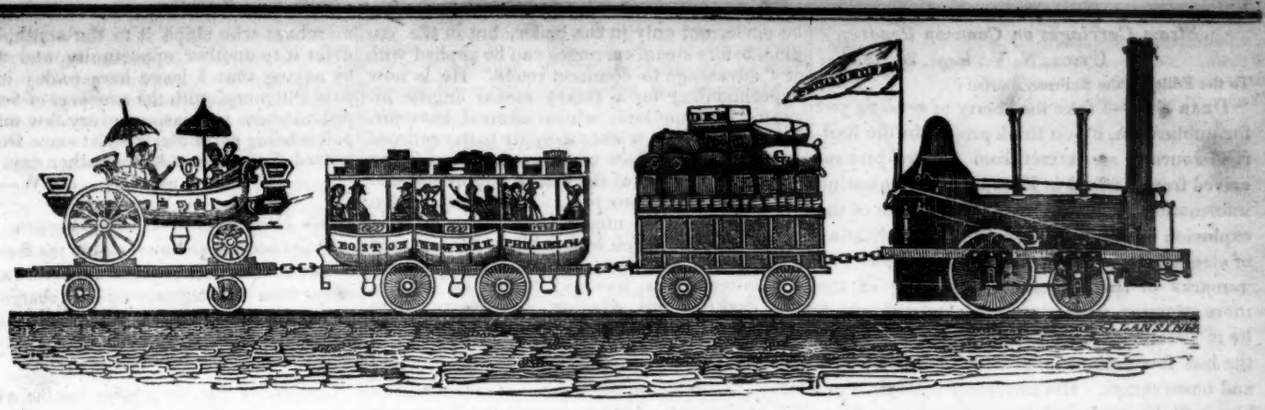


AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, OCTOBER 25, 1834. [VOLUME III.—No. 42.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 25, 1834.

To our friend in Utica, we would express our acknowledgements for the communication of his friend in relation to steam carriages on common roads. It comes quite apropos to the pamphlet of Mr. Mills, which we finished last week; and as it affords a better reply to his numerous arguments, (for the reason of its high authority, Mr. Perkins,) we have concluded to dispense with the humble dissertation on the subject we had ourselves prepared.

We are gratified to learn that the Directors of the New-Jersey Railroad and Transportation Company and Paterson Railroad Company have concluded an agreement which will enable the latter Company to place their cars on the whole line to Jersey City in the course of a few days.

Gleanings from English Magazines.

The Stockton and Darlington Railway, which was the first opened in this country for general traffic, has actually multiplied the intercourse between these two towns *forty-fold.*

The shares of the Stockton and Darlington Railway represent 106*l.* paid on each; they are now selling at 299*l.* 10*s.* each. The dividends of the Liverpool and Manchester Railway are limited by Act of Parliament to 10 per cent. (in consequence of the opposition of the great canal interests, against which it had to struggle for existence,) but notwithstanding this the 100*l.* shares are now quoted at 200*l.*

The Liverpool and Manchester Railway conveys now, on an average, about 1,200 passengers daily; which is *triple* the number ever conveyed on the common road during the best days of the coaching system. The quantity of goods transported on this railway has also been constantly on the increase, and falls now little short of 200,000 tons per annum, though it has had to contend in this branch of its business with an unusually strong canal opposition.

That the value of property of every description in the vicinity of railways should have risen amazingly since their establishment, ceases under these circumstances to be matter of surprise. In the course of the evidence adduced before the House of Lords on the London and Birmingham Railway Bill, it was shown that almost immediately after the opening of the Liverpool and Manchester line, the value of the land adjacent to it had risen generally 50 per cent.; and that portions of ground at both extremities, similar to what the Railway Company had purchased for three pence per square yard, could not now be had for less than from three shillings to four shillings per yard, being an advance of full 1,400 per cent.!

From the same evidence it appeared that the Liverpool and Manchester Railway pays on an average one-fifth of the poor rates of all the parishes through which it passes.

Between Stockton and Darlington, the charges for carrying goods and passengers have been reduced more than one-half; between Liverpool and Manchester, about one-third.

On the Canturbury and Whitstable Railway—a bad line on a bad plan—the traffic has been increased nearly *eight-fold* within the short period of three years.

The last returns from the Edinburgh and Dalkeith Railway exhibit, in one brief year, an increase of nearly 100 per cent. in the number of passengers, and about 30 per cent. in goods. For 1832, the numbers were—Passengers, 91,814; goods, 61,000 tons. For 1833—Passengers, 160,000; 80,000 tons.

Parisian Steam Carriage.—Last week, Messrs. Dietz & Hermann made an experimental trip with a steam carriage of their construction on the road to Vincennes from Paris. This machine, carrying twenty persons, ran from the Barriere du Trone to the Castle of Vincennes, a distance of three quarters of a league, in 11 minutes. It afterwards took an omnibus in tow, in which, and upon the machine itself, there were 48 passengers, and went at the rate of three leagues an hour as far as Nugent. On its return, near the Castle of Vincennes, a tube burst, but it was quickly repaired, and the machine with the omnibus attached to it, and both laden with 53 passengers, reached the Haymarket, Faubourg St. Antoine, in 12 minutes.

Use of Hot Water at Wallington, the seat of Sir John Trevelyan, in Northumberland—90 loads of coals, out of 220, were saved the first year. The value of these coals, including carriage, is about 6*s.* a ton. Instead of nine fires to four houses, there are now only two fires. The level system of circulating the water is adopted, and the work was executed by Mr. Cookson, iron-founder, of Newcastle.—[T. July 8, 1834.]

[*Correspondence of the Journal of Commerce.*]

Spottsylvania Co., (Va.,) Oct. 4th, 1834.

Having spent some time in the rich copper region of the Blue Ridge, I returned on the 4th, to the Gold mines of the United States Company in Spotsylvania Co. Here I found the miners engaged in raising ore from the shaft. As soon as the ore came into daylight, gold was distinctly seen on many of the rocks; and on beating them promiscuously into sand, and washing away the lighter particles, the result of pure metallic gold was still more beautiful and surprizing. I descended into the shaft about 30 feet, and after passing along in a tunnel 100 feet, I came to the vein, which, by admeasurement, was found to be 21 inches in diameter, and dipping at an angle of about 60 degrees. I send you a common specimen of the vein, which was broken down in my presence, and which, if skilfully examined, will be found to contain from $40 to $50 per hundred weight or bushel. The whole expense of raising and working this ore is from 60 to 65 cents per hundred weight or bushel.—This Company is now fully organized, and in full operation, under a charter granted by the legislature of Virginia, Jan. 9, 1834. Their mining operations appear to be conducted with economy and skill, by Capt. Rau, an experienced German miner. The excellent water power, abundance of wood and timber upon their own lands, together with the richness of their ore, render the prospects of this Company uncommonly promising.

Separated only by the Rappahannock River are the Rappahannock Gold Mines, under the direction of Professor John Millington. These mines are the property of a Company in Philadelphia, and although not so extensive as those of the United States Company, still their ores are found to be rich in gold, and well worth working; as may be seen from the following extract of Mr. Millington's Report. "It may therefore be fairly inferred that if the experiment had been better and more accurately conducted, and made on a larger scale, each pound weight of average ore would have yielded one grain of gold, or at the rate of five pennyweights to the hundred pounds weight of ore, which is much more than the probable, or indeed possible cost of working the mines,—as we conceive that could in no case amount to so much as one dollar upon the hundred pounds weight."

I remain yours very respectfully,

F. Shepherd.

Steam Carriages on Common Roads.

UTICA, N. Y., Sept. 26, 1834.

To the Editor of the Railroad Journal:

DEAR SIR,—I take the liberty of sending you for publication, if you think proper, in the Railroad Journal, an extract from a letter just received from a friend in Europe, communicating information upon the important subjects of the explosion of steam boilers and the application of steam to locomotion on common roads. The remarks of the writer are deserving of the more attention, as they are subjects with which he is practically acquainted, and to which for the last few years he has devoted much study and observation. His interview with Mr. Perkins will be read with interest, not only from the high reputation which Mr. P. has acquired as an artist, but from the general success of his labors, in developing the powers and properties of steam, and in various other improvements in science and the arts.

With respect, yours, truly, E. F. J.

"PARIS, August 2, 1834.

* * * * * * *

"I made considerable inquiry (as you requested) with regard to the application of steam carriages to common roads while in England, but regret that I am not able to give you as favorable an account of the late improvements as you may possibly anticipate.

"You have probably seen the statement published in the London Times some months since, that a carriage, in operation near there, had passed the Royal Mail while ascending at full speed a hill of considerable elevation, and that it had travelled at the rate of 24 miles per hour on a level. You must not, however, conclude that the use of steam is driving the horses from the English turnpikes. The arbitrary coachman has not yet been compelled to abdicate his throne in favor of the more skilful engineer, who has been trained to load a safety valve in lieu of the cockney accomplishment of guiding by the rein or cracking the whip.

"The great weight which, notwithstanding the numerous improvements, is still found indispensable to an engine and boiler of any considerable power, renders it almost impossible to mount it upon wheels, and continue it in rapid motion for any length of time, on as irregular a surface as that of a common road, without serious injury. It must be considered likewise that the effect produced by a given power is small, compared with that upon a well constructed railway, owing to the greater resistance to be overcome, arising from the irregularity of the surface above mentioned.

"Mr. Church's patent steam carriage, constructed to ply between Birmingham and London, is one of the lightest in proportion to its strength, and I think of the best arrangement of any that I had an opportunity of seeing It has two oscillating cylinders of 50 horse power each, and a small extra engine for supplying the boiler with water when the carriage is at rest. The whole machine weighs four tons, and performs admirably for a short distance, but is subject to the difficulty I have already mentioned. *It is now, like all the others, laid up for repair.*

"Mr. Ericsson (of whom you speak) has not as yet been able, I believe, to prove by actual experiment the advantages of his boiler for using air instead of water for generating power. I sent you from London a number of the Repertory, containing the specification of his patent, and I have not learned that he has made any important improvement since.

"There is a great difference of opinion with regard to the ultimate success of steam carriages among the knowing ones England. Mr. Church is very confident of success, and is expending very large sums in experimenting, while Mr. Perkins is of a different opinion. He thinks that very great improvements must yet be made, not only in the boiler, but in the engine, before steam carriages can be applied with any advantage to common roads. He is now experimenting on a rotary steam engine invented by some lord, whose name I have forgotten, which he wishes to apply to the railroad carriage. You know what my views have been on the application of the rotary engine to locomotion for some time past. Pardon my vanity, but I do think the model I showed you some years since is much less liable to friction, and I know less complicated than his lordship's. The latter moves, however, under the hand of Mr. Perkins, but whether it will economize steam the most, is another question.

"Speaking of Mr. Perkins reminds me of a conversation I had with him a few days before leaving London, on the subject of steam boilers and explosions. He agrees with me in opinion that the theory of collapses is false, and that explosions only occur from the application of too great a pressure, (caused either by too great a reduction of water in the boiler, or by not using the steam as rapidly as it should be,) or from the combustion of a mixture of hydrogen and oxygen gases. He told me that he was perfectly convinced, from recent experiments, that if explosions did occur in the use of his high pressure boiler from the first two causes, no serious consequences would ensue. As a proof of this assertion, he produced several fragments of a boiler, which had been attached to his steam-gun, and which had exploded several times at a pressure of from 400 lbs. to 600 lbs. to the square inch, without injury to the engineer or any of the attendants, or without deranging any part of the machine, except the particular flue, or rather cylinder or tube, that gave way, and which in every case was repaired in one night and ready for action again the next morning.

"He also thinks he has discovered how the oxygen is supplied, which, combined with hydrogen, has produced, beyond a doubt, so many dreadful explosions of the low pressure boilers in our country. You are aware that the disbelievers in the theory of explosions by the combination of gases have founded their faith on the impossibility that any oxygen gas should exist in the boiler. They say that it is impossible for it to find its way there against the pressure of the steam, and that although hydrogen might be formed by the decomposition of the water, yet oxygen could not be. Mr. P. perfectly explains it. It is supplied by the force pump, which, in almost all the American steamboats, is constructed in such a manner as to force in air when it is no longer able to supply water. The water being low, the iron is exposed to the action of the fire, soon becomes red hot, throws off hydrogen, and when a certain quantity of each is produced, the boiler is as certain to explode, as though, when thus heated, it were filled with gunpowder. This, too, explains the reason why the number of explosions in England are so few in proportion to those in the United States. It is not because they have more skilful engineers, or that they are more careful, but because their force pumps are immersed, almost universally, in water, (not from design, but by accident.) They therefore cannot force air into the boiler, although they may not supply it with water. The subject certainly deserves attention. If by using a boiler like that of Mr. Perkins', the risk of life occasioned by the ordinary explosions can be greatly or entirely diminished, and if, by immersing the force pump in water, the explosion of gases can be entirely prevented, the experiment should be fairly and fully tried.

"I intended to have given you, as well as I was able, a description of the Galley of Practical Arts, in which Mr. P.'s steam gun is placed, which discharges 36 balls per second, and where his press is deposited, with which he compresses water one-twelfth of its bulk. I wished also to speak of his late discovery of making ice at 4 cents per lb., by which he is enabled to produce it at sea to supply the place of fresh water, and to undersell the Boston merchant who ships it to the south, but must defer it to another opportunity, and will close by saying that I leave here to-day in a small paid Diligence, with the prospect of being stopped to show my pasport every few miles: the police being particularly strict since Don Carlos passed them so rapidly the other day.

"Yours, as ever, W———."

To the Editor of the New York American.

I have been much interested in the facts detailed in the enclosed letter, which I received a few days since, from the Engineer who has charge of a new locomotive Steam Engine, which has been at work for three or four months on the Lancaster, Pa. Railroad.

Considering that the engine has the adhesion of but one pair of wheels, and the proportionally small amount of weight on those wheels, for the work done; together with the length of time she has been at work without the loss of a day, on a road so unfavorable for steam power; I believe the performance is unequalled in the history of the locomotive engine; and presume its publication may interest some of your readers.

Should your opinion coincide with my own in this respect, you are at liberty to publish it in your paper. I am, very respectfully, your obedient servant.

E. L. MILLER.

New York, October 17th, 1834.

Lancaster, September 30th, 1834.

DEAR SIR:—The following statement, I believe, comprises most of the facts you requested relative to the performance of the locomotive Steam Engine, of which I have charge, and now at work on the Pennsylvania State Road.

Knowing the interest you feel in the merits of these facts, I have thought it best to communicate to you the character of the road; which is one of the most unfavorable in the country, for the locomotive Engine, having been originally located for horse power only.

From Philadelphia to Lancaster, a distance of 70 miles, the whole surface of it is very undulating.—Some of the ascents are 45 feet per mile, and the average range is near 30 feet per mile, in addition to which, curves of from 450 feet, to 850 feet radius, frequently occur in the worst ascents.—Indeed, the road is almost made up of curves, so much so, that the engine is frequently entering a curve to the right, while her train is yet coming out of a curve to the left 1 3-4 miles being the longest continued straight line, in the whole 70 miles. The Engine with the exception of the wheels is a duplicate of the engine called the "E. L. Miller," constructed for you by Mr. Baldwin, of Philadelphia, for the Charleston Road, and I think, considering the character of this road, performs equally well. She has now been in operation more than three months, and has deen mostly employed in conveying iron for the road; running to Lancaster, 70 miles one day, and returning the next, with promiscuous freight.—Her usual load of freight is 35 tons.

In one instance she carried up 14 cars, with 40 tons of iron, and an extra car load of wood, making with the tender 16 cars; a gross weight, including engine, of about 75 tons. The cars are those first built for the road, without springs, and in very bad order: average speed, with these loads, twelve to fourteen miles per hour.

As yet, she has not lost a day, and has needed very little repairs. She blows off steam at the top of the 45 feet grades, after ascending them with the heaviest loads; and has less than 700 lbs. on her heaviest or driving wheels.

Your plan of increasing the adhesion of the driving wheels, answers perfectly; indeed we could not get along on our heaviest grades without it. Instead of the levers on the Charleston engine, we use the screw on *this*, which is more convenient; and with good cars, and the rail in good order, we have no doubt of being able to carry 50 tons of freight up our 45 feet grades. Respectfully yours, E. C. WHITING.

E. L. MILLER, Esq. New-York.

P. S.—I understand that the commissioners of this road have contracted with Mr. Baldwin for as many engines of this kind, as he can construct for several months. About three weeks since, he put in operation on this road, a second engine of the same kind, which works finely. He has a third engine for the Trenton road, ready to put in operation next week; and two more for this road in his shop well under way. Yours as above, E. C. W.

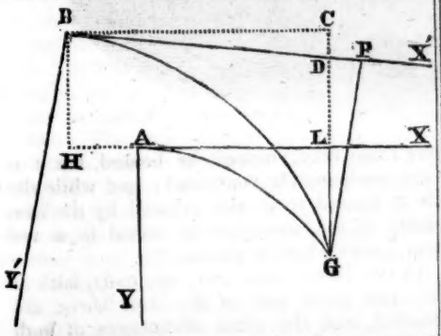
On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. Continued from page 644.

[For the American Railroad Journal.]

21. If the point designated for the required curve to meet does not coincide with the extremity of the *n*th chain in the given curve, as in the last article it is supposed, but varies a small distance to the right or left, yet, *if the curves are long*, the best method will always be to compute the value of T′ as though the curve sought were intended to pass through the point contemplated in (XIX.); and then the requisite small variation in the computed value of T′, to meet the case proposed, may be subsequently determined by very simple methods, to be hereafter explained.

22. Let two curves be under consideration having different origins, and tangent lines; and let one of those curves be given, and a point designated therein, through which the other curve is required to pass. Take a system of rectangular co-ordinate axes, corresponding with the given origin, and tangent line, of the given curve, and let the co-ordinates of that point which is designated for the required curve to meet, be x, y; the value of these co-ordinates being computed by means of (VII.) if the given curve be already laid in the field, but determined by means of a system of rectangular lines when that curve has not been actually laid. Let the co-ordinates of the *new origin*, taken with reference to the axes of x, y, and determined either by computation or by means of a system of rectangular lines, be denoted by $\propto$ β; $\propto$ *being supposed to coincide with the axis of* x. And lastly, take z to denote the given inclination of the tangents at the origins of the two curves. From those data it is then proposed to find the modulus of curvature of the required curve, such that it may pass through the designated point.

Take a new system of rectangular co-ordinate axes, corresponding with the origin and tangent line of the required curve; and agreeably to these, let x', y', represent the new co-ordinates of the point designated in the given curve. It is then very obvious that the required modulus of curvature will be immediately derived from (XI.), when the new co-ordinates x', y', become known. The value of those co-ordinates must therefore be sought agreeably to the known methods of analytical geometry, for the transformation of co-ordinates. Let A be the origin, and G the designated point, in the given curve AG; and take



the point B for the new origin of the required curve BG, and AX, AY, and BX′, BY′, for the two given systems of rectangular co-ordinate axes; the two tangent lines coinciding with AX and BX′ respectively. Let such lines be drawn as appear obvious upon the figure, and the following values will then obtain: $x = AL$, $y = LG$, $\propto = AH$, $\beta = HB$, $x' = BP$, $y' = PG$, and $z = \angle CBD = \angle LGP$.

By plane trigonometry $CD = \overline{x + \propto}$. Tan. z; and consequeutly $DG = y + \beta - \overline{x + \propto}$. Tan. z; but again by plane trigonometry, $PG = DG$. Cos. z. Hence, $PG = y + \beta$. Cos. $z - \overline{x + \propto}$. Sin z. In like manner it will be found that $BP = \overline{y + \beta}$. Sin. $z + \overline{x + \propto}$. Cos. z. The values of the new co-ordinates will therefore be expressed as follows:

$$x' = \overline{y + \beta}. \text{ Sin. } z + \overline{x + \propto}. \text{ Cos. } z$$

$$y' = \overline{y + \beta}. \text{ Cos. } z - \overline{x + \propto}. \text{ Sin. } z. \quad \text{(XXI.)}$$

Such are the formulas to be used in the field, when a new system of co-ordinates must be computed; they are the well known expressions given by most authors for the transformation of rectangular co-ordinates, and they only here stand transposed in such a manner as will best suit the engineer's purpose in the present inquiry.

It may be observed, that the value of the angle z need never be obtained by a measurement with the instrument; for it may always be easily computed from the manner in which the two origins, at A and B, have been obtained.

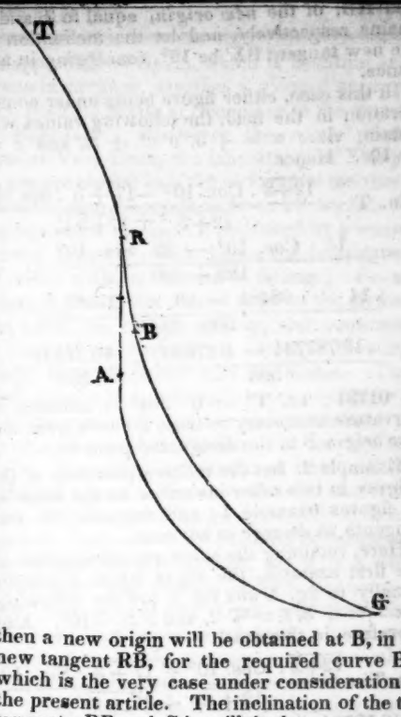
The value of the new co-ordinates having been found, the required modulus of curvature may be easily computed by means of (XI.) as before remarked. But a direct formula will be more convenient for use; and in order to obtain such a formula, let each of (XXI.) be squared, and the result will give $x'^2 + y'^2 = \overline{y + \beta}|^2 + \overline{x + \propto}|^2$. Hence denoting the required modulus of curvature by T′, the following formula will be immediately derived from (XI.)

$$\text{Sin. } T' = \frac{\overline{y + \beta}. \text{ Cos. } z - \overline{x + \propto} \text{ Sin. } z}{\overline{y + \beta}|^2 + \overline{x + \propto}|^2}. \quad \text{(XXII.)}$$

The theorem thus obtained, expressing the value of T′, has a very good form for numerical computations, and when skillfully applied, it will frequently save much labor in the field, which would be otherwise required when *certain alterations* are proposed in a line *once computed, or accurately traced.* And although the co-ordinates $\propto$, β, and the angle z, which expresses the inclination of the axis of x, and of x', to each other, will change their *signs* under different circumstances in the field, yet, to those who are familiar with the use of algebraic formulas, this cannot be a source of any embarrassment. For it has only to be observed that the hypothesis here assumed is, that $\propto$ is accounted *positive* when its direction is immediately *opposite* to the direction of x; and β is, in like manner, accounted *positive* when its direction is immediately *opposite* to the direction of y. And either $\propto$ or β must, in consequence, have its sign *reversed* in (XXI.) or (XXII.), when the circumstances in the field are such as to give either of them the same direction with its respective co-ordinate axis.

The angle z is to be accounted negative, or which is the same thing, the quantity Sin. z must have its sign *reversed*,* in the two following cases: I. When β is positive, and the two tangents diverge *in advance.* II. When β is negative, and the two tangents converge *in advance.* In all other cases the formulas (XXI.) and (XXII.) will retain their present forms, as far as the angle z is concerned.

In order to show *one* case in which an application of (XXII.) will be extremely convenient in practice, let TRS be a curve already laid in the field upon *such ground as ought to be selected*, and let SA be a *short* tangent intervening between the given curve TRS, and a certain reversed curve AG, necessary to pass a designated point G. Having traced a system of rectangular lines from the given origin A, and terminating in the designated point G, let the modulus of curvature be computed by means of (XI.) which would trace the curve AG, and let the direction of that curve, at the point G, be examined agreeably to the method explained in Article 16. Now, supposing this curvature is found more abrupt than is thought to be judicious, the only method of alteration will be to take the curve TRS off into a tangent a little sooner, as for instance at the station R, and



then a new origin will be obtained at B, in the new tangent RB, for the required curve BG, which is the very case under consideration in the present article. The inclination of the two tangents RB and SA, will be known at once from (IV.); and the co-ordinates of the new origin B may be easily computed by methods to be hereafter explained. By repeating a calculation from (XXII.) for several points in the given curve TRS, it will be easy to select a proper point R, at which to terminate the given curve TR, in order to lay a short tangent RB in such a position as to meet the necessary conditions imposed by the reversed curve BG. Other cases will be hereafter mentioned, in which an application of (XXII.) will be required; but, in the first place, the following examples are here given, amply to illustrate the *various mutations of that formula, under the different circumstances occurring in practice.*

Example 1. Let figures 1 and 2 exhibit the relative positions of the origins and tangent lines in two *different instances* occurring in the field; A being the primitive origin in both

Fig. 1.

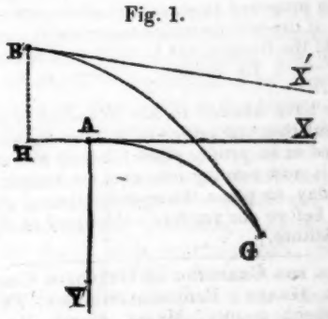
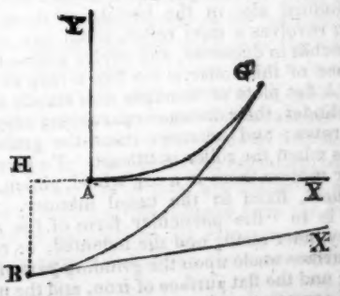


Fig. 2.



figures. Suppose a system of rectangular lines to be traced from the origin A, and terminating in the designated point G, and let the resulting equations give, $x = 17$ chains, $y = 12$ chains, agreeably to the principles explained in Art. 16. Take also the co-ordinates AH

* *Note.*—Agreeably to the principles of trigonometry, when an arc becomes *negative*, the Sine becomes *negative* also; but the Cosine does not change its sign.

and HB, of the *new origin*, equal to 3 and 2 chains respectively, and let the inclination of the new tangent BX′ be 10°, *converging* in advance.

In this case, either figure being under consideration in the field, the following values will obtain, viz.: $\propto = +3$, $\beta = +2$, and $z = +10°$. Hence,

$$\text{Sin. } T' = \frac{\overline{12+2} \cdot \text{Cos. } 10° - \overline{17+3} \cdot \text{Sin } 10°}{\overline{12+2}|^2 + \overline{17+3}|^2}$$

$$= \frac{14 \cdot \text{Cos. } 10° - 20 \cdot \text{Sin. } 10°}{196 + 400} =$$

$$\frac{14 \times \cdot 98481 - 20 \times \cdot 17365}{596} =$$

$$\frac{13{\cdot}787734 - 3{\cdot}47300}{596} = \frac{10.31434}{596}$$

$= \cdot 01731$; or, $T' = 0°\ 59\frac{1}{2}' =$ modulus of curvature necessary to trace a curve from the *new origin* B to the designated point G.

Example 2. Let the relative positions of the *origins* in two other instances be the same as in figures example 1; and suppose the two tangents to *diverge* in advance.

Here, retaining the same quantities given in the first example, the signs which appertain equally to fig. 1 and fig. 2, are the following, viz.: $\propto + 3$, $\beta = +2$, and $z = -10°$. And, therefore, in this case,

$$\text{Sin. } T' = \frac{\overline{12+2} \cdot \text{Cos. } 10° + \overline{17+3} \cdot \text{Sin. } 10°}{\overline{12+2}|^2 + \overline{17+3}|^2}$$

$$= \frac{13{\cdot}78734 + 3.47300}{596} = \frac{17{\cdot}26034}{596} = \cdot 02896;$$

or, $T' = 1°\ 39\frac{1}{2}' =$ modulus of curvature required.

Agricultural Pulverizer; B. F. Stickney, Vistula, Monroe County, Michigan Territory, March 1.—There is a striking resemblance between this machine and that patented by Mr. Jas. D. Woodside, on the 28th of July, 1832: the main difference being in making the part which is to pulverise the ground in the form of cultivator teeth, and allowing them to fall back by means of a hinge joint close to the roller, whilst in Mr. Woodside's machine thay are permanent teeth, or spikes. The roller around which the cutters, or hoes, are fixed, receives its motion by gearing from wheels which roll upon the ground, and there is a lever to raise or depress the roller as in the former machine. It is also proposed to place spikes or pins on the faces of the wheels which run upon the ground, should the friction not be sufficient to drive the roller with its cutters. There is no claim made.

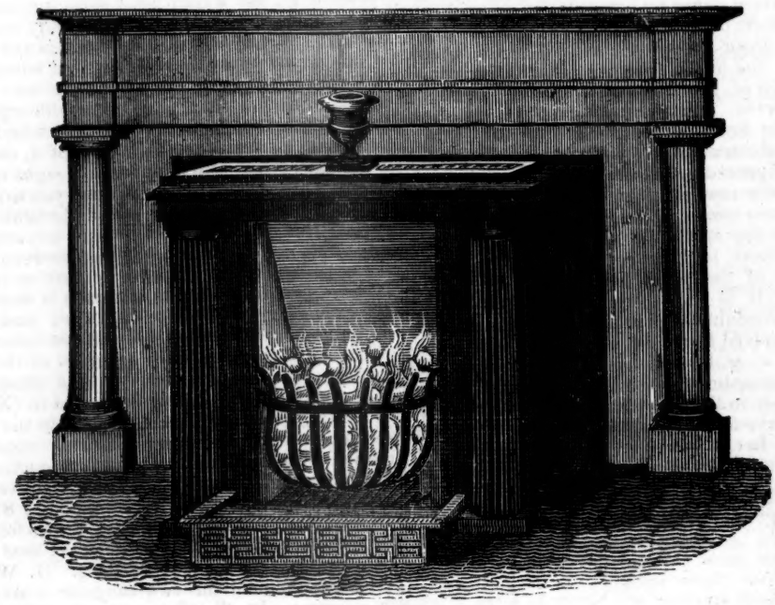
We have alluded to Mr. Woodside's patent, but find that our notice of it was accidentally omitted in its proper place; but as this instrument is now coming into use, we design, at an early day, to place the specification of it, with a cut, before our readers.—[Journal of Franklin Institute.]

Mill for Cracking or Grinding Corn or other Grain; Benjamin Hinkley, Fayette, Kennebeck county, Maine, March 10.—The corn to be broken is put into a hopper having a longitudinal slot in the bottom of it, against which revolves a steel roller, about two and a half inches in diameter, and twelve inches long; the face of this roller is cut like a rasp or grater. A flat plate of wrought iron stands along the cylinder, their distance apart being adjusted by screws; and between these the grain descends when the roller is turned. To give the proper motion there is a cog wheel, pinion, and fly wheel, fixed in the usual manner. The claim is to "the particular form of the solid steel cylinder shaft, and the indented, or rasping, surface made upon the grinding part of the same; and the flat surface of iron, and the manner of screwing and gauging the same to and from the cylinder."

The similarity between this machine and that of Webber Furbish, will be apparent to any one.—[Ib.]

Wheels for Carriages of all kinds; Henry Beebe, Haverstraw, Rockland county, New-York, March 12.—This wheel is to be made with a rim and spokes of wrought iron, and a hub of cast iron. The rim for a four feet six wheel, it is proposed to make of iron five-sixteenths thick, and one and three-eighths wide. After this is formed into a hoop, holes are to be bored in it to correspond with the number and size of the spokes; these latter are tapped and have nuts on their outer ends, the screw slides freely within the holes in the rim, which are smooth. When the hub is to be cast, it is moulded in such a way that the bore to receive the axle may have an enlarged opening in the centre, for the sake of lightness, and to contain oil, &c. The spokes, surrounded by the rim, are laid in the flask, so that the cast metal shall embrace their inner ends. When cast, the wheel is placed upon an axle and turned round, to try if the rim is true; to make it so, the nuts are tightened up against it, and when true, the projecting ends of the spokes are removed and heated tire put on. The claim is to "the whole of the machine, or wheel, above described, when taken together, and the mode and manner of constructing the same, particularly the principle of constructing the hub upon the iron or steel spokes. But no claim is made for the mode of making the hub, the spoke, the rim, or the tire, or any of the parts of this machine, or wheel, taken separately." The hubs of wheels have often been cast upon wrought iron spokes; it would seem, therefore that the *particular principle* claimed is not new. We doubt the goodness of the whole wheel, and particularly the durability of the connexion between the cast iron hub and wrought iron spokes.—[Ib.]

Extricating Horses from Carriages: O. R. Broyles, Anderson Court House, Pendleton District, South Carolina, March 17.—In this apparatus the windlasses to which the leathers of the swingletrees are attached are made capable of revolving, so as to present their reversed sides to the horses, and so constructed as the swingletrees will, in that case, be detached, and the horses liberated. They are ordinarily held in their places by two levers, connected together by a rope at their extreme ends, but according to the present mode their connection is destroyed, and the horses freed by pulling a line which passes from them to the carriage. The plan appears to be relied on as altogether new, no claim being made to any part of it. The particular arrangement described may probably be original, but there are others bearing some analogy to it, equally simple, and operating equally well, which have been introduced, but have never gone into extended use. The fact is, that whilst we laugh at the sailor who objects to a cork jacket, or other life-preserver, because he is apprehensive that it may invite the catastrophe against which it is to guard, most of us neglect those precautions that are intended to protect us against *possible* danger only.—[Ib.]



The Doric Fire-Place for burning Anthracite or Bituminous Coal.

We have seen a contrivance for burning anthracite, and indeed any other kind of coal, that should combine the advantages both of an open grate and of a close stove, without subjecting the room to the inconveniences of either. The enormous loss of heat at which coal is burnt in the common open grate has been heartsickening to those of us who have to *pay* for our coal, and to *earn* the money that we pay; for in a common open grate, where a column of air is constantly poured out of the room, up chimney, with nothing to re-place it but fresh cold air pressing through every crack, by door or window, at least three quarters of the heat that is generated by the combustion of the coal is lost to the room; and then, if, in order to avoid this sacrifice of cash and comfort, we have recourse to a close stove, our room may, indeed, be heated, but it is very inadequately ventilated; and while the air is heated, it is also vitiated by the iron plates of the stove, (often raised to a red heat,) over which it passes.

In the Doric Fire-place, the evils, both of the open grate and of the close stove, are avoided, and the chief advantages of both are secured.

We say nothing of the form or style of this article, for in regard to that every one must be allowed to decide according to his own taste. We may however remark, that it has our vote, for it presents a classic front; and if the ladies will look at it with a touching remembrance of all the "toil and trouble" that the brightening up of their brasses now gives them, we are sure we shall have their votes also in favor of the simplicity of the Doric Fire-place.

The following is a statement of its utility:

It secures the safe and *entire* combustion of the coal;

It *saves the heat* produced by that combustion, and converts it to use by diffusing it equally and pleasantly through the room;

It secures the room from *the evil of a smoking chimney*, without recourse to the bad alternative of an open door or window;

It combines, and in itself unites, all the principal advantages of *both the usual modes of communicating heat by radiation*, as in common fire-places, and by *transmission*, as in close stoves—securing the benefits of both without the evils of either. It *warms* while it *ventilates* the room. It is so far *portable* that it can be set into a common fire-place, and again removed from it without injury to the jambs, so that it may be used by a tenant without becoming a fixture. Its construction or arrangement of parts is such that the iron plates are indestructible by the heat, and will therefore *last indefinitely*.

Any person desirous of seeing the Doric Fire-Place can be gratified by calling at No. 1, Chester Buildings, corner of Broadway and Dey street.—[Mechanics Magazine.]

Essay on the Indian Summer, read at a meeting of the Maryland Academy of Sciences, by one of its Members, Baltimore, Dec. 16, 1833. [From Silliman's Journal.]

The following pages contain a few observations on that peculiar and periodical appearance of the atmosphere, usually termed Indian summer; in this essay, the writer has made a feeble attempt to explain some of the more prominent causes concerned in its production—and to offer views explanatory of the attending phenomena—such as the smoky and reddish aspect of the sky, the increased temperature, &c. &c.

Attention was directed to this investigation, in consequence of the verbal notice taken by one of the members of this Academy, of a paragraph contained in a late number of the American Journal of Science, and which requested of some one of the correspondents of that valuable work, an explanation of the causes of this occurrence. The subject at once presented itself to the mind, as one of much interest; and indeed excited astonishment, that hitherto no written or satisfactory explanation has been made of a phenomenon, which, from its regular appearance, obvious character, and marked duration, has become familiar to almost every inhabitant of this country. The total silence of books, and consequent want of reference, is a sufficient apology for many imperfections—the writer was left to draw conclusions wholly from his own reflections, on the more prominent and attending facts, and of which there is no other record than memory.

The term Indian summer has been applied to that obscure and hazy condition of the atmosphere which usually occurs towards the last of November, attended with a peculiar redness of the sky—an absence of rain—and we might add, an obviously increased temperature; which latter fact is in some degree significant of its name; probably the appellation of Indian is derived from the circumstance of this period of the year being selected by the aborigines of the country as their hunting season, to which it is highly conducive, not only on account of the plenty and perfection of the game, but also in consequence of the haziness or obscurity of the air, which favors a near and unsuspected approach to the object of pursuit. The New-England tradition is, that the term Indian summer is derived from the prevalence of the south-west wind at that time—and which the Indians supposed to be sent as a peculiar favor from their good deity Coutantowit, supposed to reside in that quarter.

Having stated that the Indian summer appears usually in the month of November, we do not, however, wish to be understood that a haziness or obscurity of the air occurs in that month only, and that its duration is confined, and peculiar to, a few days in the latter part of the autumnal season—on the contrary, common observation, (as well as minute reference to meteorological tables,) proves that it is by no means uncommon in the month of October, and is frequently mistaken then for the true Indian summer, by persons unacquainted with the proper period of its accession. This is a fact which we wish borne in mind,—as it enables us to account for one of the general laws on which the phenomenon is dependent, but which would not apply, were we erroneously to confine the prevalence of a hazy atmosphere to a few days at the commencement of winter. It is true that at this period there is usually a longer and more closely connected exhibition of character, and to which, (as before observed,) the term Indian summer is correctly applied—but were we to see no analogy in the general aspect of the fall season, we should be forced to search wholly among local causes, for the explanation of a fact, in which a regular and extended variation of temperature, (dependent on the sun's annual declination,) is obviously concerned as a leading or predisposing cause.

The regular yearly changes of temperature greatly affect the transparency of the atmosphere, and give it, at certain seasons, a peculiar appearance; for instance, during the spring, when the temperature of the air is evidently on the increase, its capacity for moisture increases faster than the additions which are made to its humidity by evaporation or moderately moist winds; whereas, during the autumn, the temperature is as rapidly on the decline, and the capacity of the air to contain moisture being on the decrease, a slight addition to its humidity produces hazy or foggy weather. This autumnal obscurity of the atmosphere would prevail more generally here, (as it does in England and the northern shores of Europe,) were it not for the frequency of our north-westerly winds, which from their dryness are always attended with a cloudless sky. Having ascertained that the annual variation of temperature is one of the great predisposing causes of the phenomenon before us, we shall proceed to trace out other auxiliary causes. A second prominent cause, which we therefore notice, is the prevalence of peculiar winds; for the translations of large portions of the atmosphere from one parallel to another must always be regarded as one of the most powerful causes by which the transparency of the air is affected; and, as before observed, a north-westerly wind, (from obvious causes,) brings with it a smaller supply of moisture than belongs to the mean hygrometric condition of the air in this region, and is hence always attended with a transparent atmosphere, so the very reverse is occasioned by easterly and southerly winds which obscure and thicken the air. The humid effects of particular winds are however greatly modified by local circumstances—a celebrated naturalist remarks, "that the sky of Xalappa in New Spain, which is beautiful and serene in summer, assumes a gloomy appearance from the month of December to the month of February; whenever the north winds blow at Vera Cruz, the inhabitants of Xalappa are enveloped in a dense fog, and the thermometer then descends to 45 or 50 degrees;" (on our coast the haze is produced by a warm current from the south, hence the thermometer rises with us instead of falling.) So at Lima, in Peru, the cloudy state of the air begins about the middle of July, and continues to the end of November, the wind blowing chiefly from the south and south-east. The third cause which we shall notice as concerned in the production of the Indian summer is the elevation and depression of atmospherical strata; this effect is sometimes produced by electrical agencies, by elevation and conformation of country, but more generally and extensively than either by changes of temperature at the earth's surface, for it is a well known fact, that the air, being a diaphanous body, can receive no direct heat from the solar rays, but becomes warmed only by the contact of its lower stratum with the earth's surface, which portion when rarified ascends and gives place to a cooler descending one: this remains below, until its thermal condition is again altered, when it re-ascends, thus establishing a constant circulation and perfect admixture of the different strata of air. That electrical agencies are concerned in the elevation and depression of atmospherical strata, there can be no doubt, but we are aware that the immediate and more extensive operation of this cause is in tropical latitudes. Thus Humboldt, in his personal narrative, remarks, "that the rainy season takes place within the tropical regions, when the causes which concur to produce a mixture of the atmospherical strata operate with the fullest effect; for instance, when the sun approaches the zenith of any particular parallel, the trade winds become less regular, the temperature increases, and the causes which contribute to the humidity of the atmosphere act with fullest vigor. The superincumbent columns of air are soon saturated with vapor, the production of which is accompanied by a great accumulation of electricity in the higher regions of the air; at length an intermixture of the strata begins to take place, produced chiefly, it would appear, by electrical explosions; the precipitation of the condensed vapor commences, and proceeds, (especially during the day,) with scarcely any intermission. The rain now descends in vast sheets; the rivers, raised above their ordinary level, can no longer be confined within their banks; and the supply they receive from the clouds exceeding the discharge by their channels, they spread far and wide over the adjacent fields, aad exhibit on every hand a dreary expanse of muddy and discolored waters. This state of things undergoes little alteration until the sun returns to the signs of the other hemisphere; at that period the aerial currents from the homonymous pole are renewed, and the air which flows from it being very far from the point of saturation, the rains cease, and the sky resumes its former clearness and serenity."

[*To be continued.*]

Corn for Hogs.—Those who have not the conveniences for cracking or boiling their hard corn, can easily provide ways and means to give it a slight fermentation.

Improvement of the Barometer.

[From the American Journal of Science and Art.]

To Prof. SILLIMAN:

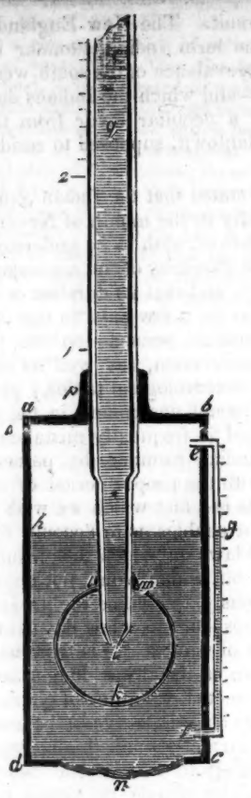
Dear Sir,—In the frequent use of the portable barometer, I have often experienced much inconvenience from air entering the tube, at times when perhaps great precision was necessary, not only for ascertaining the altitude, but likewise for weighing the atmosphere, which is sometimes intimately connected with other experiments, then under a course of investigation.

Although one of the most simple in form, the barometer is probably one of the most difficult instruments to *construct*. The frequent breaking of the tubes, while undergoing the great heat which is necessary to exhaust the air, requires more patient care for this tedious process than most men are able or willing to devote; and yet, without this process, and that well and effectually performed, the air must be diffused through the mercurial column, or escape to the top, where it destroys the vacuum, in which case the instrument is not suitable for the purpose intended, and does not deserve the name of barometer. The manufacturer who would allow such an instrument to pass from his hands to the world, is guilty of a great misdemeanor, and deserves the censure of all good men; for such imperfections have prevented the barometer from attaining the rank which it deserves in the estimation of the world. It is an insult to the memory of *Torricelli*, who will yet be ranked among the greatest benefactors of mankind.

It is to be regretted that so many imperfect or deranged instruments are in use. It destroys all confidence in the barometer, and I know some persons who *deride* its well known properties of predicting winds, and even treat the idea as *chimerical*. But such men could not have possessed a perfect instrument, or have devoted a proper attention to the observations, as thousands can testify to its efficient warnings; when, by suitable and timely preparations for the predicted hurricane, property and lives have been saved from the devastating elements, which would otherwise have involved the whole in ruin.

Although in the construction and repairing of my barometer I was generally fortunate in clearing the tube entirely of air, yet, in use, I think I never kept it one year in that perfect condition. This repeated derangement and consequent expenditure of time, patience, and money, led me first to inquire the cause, which I soon learned, and then undertook to invent something which should effectually prevent the evil. I soon succeeded, even beyond my most sanguine expectations, so as even to render the instrument perfectly secure against all accidents, except breaking, to which *all* instruments are subject. With this security I have not encumbered the barometer with any thing on the outside, but the whole is confined to the cistern, thereby retaining the instrument in the most *portable* form.

The annexed engraving represents a vertical half section of the barometer. *a b c* and *d* is the cistern, two inches long and one inch in diameter. *e* and *f* is a glass tube, open at both ends, and let into the cistern above and below zero, which in the barometer is always changing its position. The original zero is marked on this tube at *g*, with decimal parts of the inch, extending above and below, to be deducted from, or



added to, the height of the mercurial column in the large tube. *h* is zero, which, when made on a level with the ocean, stood ¾ of an inch from the top of the cistern, which immerses the top of the globe ⅜ of an inch in mercury. The ¾ of an inch between original zero and the top of the cistern, leaves sufficient space for the column, in high altitudes, to fall: a circumstance which has never been properly attended to in constructing barometers; although probably no other barometer will admit of so much space, without endangering the instrument. *i* is the end of the tube, with the column drawn to a small point, which answers precisely the same purpose as the contraction in M. Gay Lussac's "improved marine portable barometer." But in this case the contraction at the bottom of the tube possesses other advantages than merely to prevent the sudden rise and fall of the mercury; for by placing the contraction at the bottom, we can draw the end of the tube to a small point, which renders the column less liable to admit air, either from a concussion or inverting its position.

This improvement alone I deemed of sufficient importance to justify the *construction* of a new barometer, and was actually prosecuting it, when an idea of the *globe* suggested itself to me.

In all the portable barometers that I have seen, the end of the tube is cut or broken off in a careless manner, which as often leaves it *concave* as *convex*, and it must be apparent to every one who will examine the subject, that bubbles of air striking the *concave* end of a straight tube are more likely to enter the column than to roll off.

k is the *globe*, ⅜ of an inch in diameter, fixed firmly on the tube at *l*, and has a very small aperture at *m*, the only place where the mercury inside can communicate with that in the cistern. The globe is of cast steel, with which mercury is known to come in *perfect contact;* consequently the atmospheric pressure *cannot* force the air through this aperture, nor through the bottom of the tube. By examining this arrangement, you will perceive the impracticability of even *forcing* the atmosphere through the globe, much less the possibility of its being driven there by inverting and re-inverting the instrument, or by any jar or concussion which it may receive while in use or being transported.

Even admitting air to be *placed* in the globe, it is apparent that it would find its way out by the aperture one hundred times oftener than it could possibly enter the tube.

n is the leather bag through which the atmosphere communicates its influence to the whole interior of the cistern and column. Leather is the most in use, although there are other methods to admit the atmospheric pressure, in forms of the instrument, which are perhaps not so portable; although, for general use, a short tube, with a stop-cock or plug inserted in the top of the cistern, is probably the best.

o represents a screw joint of the cistern, where it is separated while attaching the globe to the tube; for the tube being connected with the cistern at *p*, would render it impracticable to fasten the globe without this separation. I mention these minutiæ, because those who undertake to make a barometer on this plan may otherwise be subject to the same perplexities which I experienced in the construction of mine.

I did not succeed in obtaining a globe, until the *third* person made the attempt, and produced it from a solid piece of steel. If made in *two* parts, it would necessarily be joined with solder, on which the mercury would act too powerfully.

The screw joint at *o* may appear simple and useless, but the *want* of it occasioned a delay of many days, and caused the breaking of several tubes, while trying to fasten the globe. The person employed on this part, twice threatened to abandon the work as impracticable, when fortunately the idea occurred to me of disconnecting the cistern in that part to afford ample space to work at *p*.

q is the mercurial column, ⅛ of an inch in diameter, except the part inside of the cistern, which is diminished in order to leave the more vacant space for the column to fall in high altitudes, and likewise to lessen the large orifice in the globe through which the tube enters.

Other proportions than those here given may serve equally well to construct a barometer on this principle, but these are the dimensions of the one which I have now completed, and for distinction will call the *Globe Portable Barometer*. It has been inspected by several scientific gentlemen, who, with my request, exposed it to all the causes which usually derange barometers, such as jarring, shaking, concussions, inverting and re-inverting its positions, without causing the least perceptible derangement. I invite all, who are so inclined, to call and see it; and to those who desire to make one, I will cheerfully give any information in my power to aid them in its construction.

Since the invention of the barometer by Torricelli, many learned men have devoted their attention to the improvement of this valuable instrument, and among the most useful is probably M. Gay Lussac's "*Improved Marine Portable Barometer*," wherein, at a certain point, the column of mercu-

ry is contracted to prevent the sudden rise and fall of the mercury by the undulating motion of the ship, while the remainder of the column retains sufficient diameter to avoid a very sensible effect from the temperature of the atmosphere. But this, as well as other forms of the barometer, whether secured by the screw and cushion pressing on the bottom, or by the stop-cock as employed by Mr. J. F. Daniels, is liable, by sudden turning or concussion, to admit air into the tube; for although the cushion and stop-cock renders the instrument *portable*, it never can be *employed* as a barometer, until the entire column is open from the hermetical seal to the cistern or atmosphere below. It is in this situation, (the only one of practical use,) that the instrument is deranged. *First*, by suddenly inverting and re-inverting the position, so that, (while passing from the bottom to the top of the cistern,) the air strikes the end of the mercurial column, and must rise in the tube, because it is lighter. *Secondly*, by a concussion which it receives every few minutes while in use, either from the motion of the ship, the carriage, the shrubbery on a mountain, or the unavoidable contact with the car and cords in a balloon; for by observing the mercury in a glass cistern, you will perceive that a concussion causes a motion like the sea waves, which mounting on one side frequently leaves the end of the tube exposed to the atmosphere, which here strikes the base of the column, and rises in the tube by its comparative weight. *Thirdly*, it is asserted that the barometer, in a course of years, will have accumulated air above the column, even if during all that time it should have been suspended in a room, without any jar or concussion to communicate the least motion; and the two most probable causes assigned are, first that the air enters through the pores of the tube, and secondly, that mercury never comes into perfect contact with glass; the latter is the most probable cause, from which it is inferred that the air in the cistern is by the atmospheric pressure forced down in extremely minute particles between the mercury and the tube, where it acquires the additional impetus of its own comparative specific gravity, and rises between the mercury and internal surface of the tube to the top of the column. As a preventive to the latter derangement, it has been suggested, and I believe practised by some, to fit closely on the bottom of the tube a ring of platina, or any other substance with which mercury comes in perfect contact, although without sufficient action to cause, for years, any perceptible diminution.

From the important purposes to which the barometer is adapted, it may well be supposed to have enlisted the attention of the most scientific men in all countries, and, indeed, for some of its uses it is invaluable, and probably no instrument will ever be invented with any proportion of its combined properties. For although by a number of instruments we can weigh the atmospheric pressure, yet even if the instruments would give the precise weight, the time occupied to obtain the result would render useless the object for which the trial was made, as the wind or calm would have actually arrived which was predicted by the state of the atmosphere when the barometrical observation was made.

A gentleman commanding one of the New-York and Havre packets, for whose scientific knowledge I entertain a high regard, told me, "that when the ship was moving with much velocity, even the barometer could not indicate the current of air," for, said he, "the ship will have moved beyond the influence of the wind, which was indicated when the barometrical observation was taken." The remark is worthy of consideration, and the want of a due attention to it is probably one of the causes which has aided to retard the more general use of this instrument among mariners. But by far the greatest cause which has prevented the universal use of the barometer, is the difficulty of procuring a good one, and the still greater difficulty of retaining it in perfect condition. It is not always easy to procure a workman competent to construct one, and when such a man is found, he is not able to devote that attention which is necessary to its adjustment, and to the boiling of the mercury in the tube, lest he should not meet the views of his customers, who are in the habit of purchasing at too low a price.

We may measure mountains by observed angles, but those who have tried the various methods give a decided preference to the barometer, which, in some cases, is the only instrument by which we can ascertain their altitude. For the cyanometer never can be used with accuracy, while sight differs with different men, or while the coloring matters for the blue tints differ so much in consequence of the soil or matter which produce them, and are so subject to change by exposure to the various climates. In the account of his travels and philosophic researches, Baron Humboldt has in many instances given us the degrees exhibited by the cyanometer, but for any satisfaction to the world, or benefit to science, he may as well have spared himself that trouble, for allowing all men to see alike, who, on being told that the cyanometer exhibited 10 or 60, has any conception of the height? We have nothing to which we can refer for accurate comparison, either impressions on the brain, or unalterable blue colors portrayed in cyanometrical form.

Being at Paris in July, 1828, I applied to some of the most reputable philosophical instrument makers for a cyanometer, but not one of them had any knowledge of it, or even knew there was such an instrument. I then called on Messrs. Gay Lussac, Cuvier, and Biot, for information respecting it. The last named gentleman was absent from the capital, which deprived me of the pleasure and information I should have derived from a conversation with him. M. Gay Lussac told me, "that he considered the instrument of very little utility, and that it was found only in the works of M. Saussure, a young gentleman of extensive scientific acquirements, who with an inventive genius combined an untiring zeal for knowledge. He travelled extensively, and it was during his passage over the Alps, where, from the blue color of the heavens, an idea occurred to him of constructing an instrument with degrees and altitudes marked to each of the blue shades, which should correspond to those in the heavens." And, continued the sage philosopher, "Saussure is dead, and those only who have been at great heights, and retain a recollection of the color, are capable of making a cyanometer."

With the information I derived from him, and my subsequent experience of these colors, I constructed such an instrument; and after repeated trials, comparing it with the barometer, at various altitudes, I found it could not be relied on for accuracy.

Many men who have devoted their attention to the subject I believe are convinced, that both the cold and darkness increase as we recede from the earth; and I have no hesitation in saying, that beyond the earth's atmosphere it is as much darker than night as any thing we can conceive; and although this darkness may increase in regular progression from the earth, still, from causes before related, I do not believe that any instrument can be found as a substitute for the barometer in measuring high altitudes.

At my fifth ascent with a balloon, from New-York, in May, 1833, I was compelled, in consequence of a high wind which prevailed, to unmoor without any philosophical instruments, except the cyanometer, which I had fortunately placed in my pocket-book. From causes which were stated in the public journals, the balloon was uncontrollable for some minutes, (a part of which time it was ascending with nearly the rapidity of an arrow,) although immediately on leaving the earth I opened the valve, which is near the top, and through which the gas would soon have escaped, but for the rapid upward motion, which caused so much resistance or pressure from the atmosphere as to retard the escape of the gas until thirty or forty minutes, when the aerostat was poised in air, and I had reached a greater altitude than I have before or since attained. Here for the last time I tried the cyanometer, which, for any utility, I might as well have left below with the barometer. The heavens were many shades darker than the blue tints to which I had affixed an approximate degree and altitude on my cyanometer, and so uncertain is sight, that when I had selected a corresponding shade on the cyanometer, in one instant the heavens would appear too light and the next moment too dark. I resolved then to abandon all further experiments with an instrument which promised to be of so little use; and if it was not to confirm M. Gay Lussac's remarks, and prove the superiority of the barometer, I should not have considered the experiments with the cyanometer worth communicating to the world.

I am aware that, among scientific men, there is an unbelief of the fact that *intensity of darkness increases as we recede from the earth*, but I do not consider it my duty here to enter upon a proof of the assertion, or attempt to explain the cause which produced it. I should infringe on your pages with a work which I do not feel competent to perform, and will leave that for more able pens than mine. The world may expect to have soon a rich intellectual treat on that subject from a gentleman in Baltimore, whose scientific acquirements, added to his profound reasonings and lucid mind, I am satisfied, (from personal acquaintance,) render him in all respects competent to perform the task.

My object in this communication is to explain the principles of my improvement in the barometer, to point out its *advantages* over all others, and induce the world, through your widely circulating Journal, to use the *globe* in all cases where the instrument is required to be *portable*. If science can be improved, and mankind receive a benefit

from this effort, if will afford me much pleasure to have contributed a mite to so noble a cause. CHAS. F. DURANT.

Jersey City, 18th July, 1834.

FOREIGN INTELLIGENCE.

ONE DAY LATER FROM EUROPE.—By the packet ship Sovereign, Capt. Griswold, there are London papers to the 7th inclusive.

Don Miguel, after stopping two days at Milan, proceeded to Parma.

GOTTENBURG, AUG. 22.—The cholera has raged dreadfully here from the 26th of July to the 21st of August. Out of a population of 23,000 souls 9,800 have fallen victims to it: among whom are many of the higher classes. Of the Jews only one woman and her son have died. All business is suspended. The few workmen that remained were employed in removing the dead bodies. The great mortality among the poorer classes is ascribed to unwholesome provisions, and irregular modes of life.

The rain, which has so long been wished for, having fallen, the air is purified, and the cholera appears to abate. No goods have been shipped, as all the ship owners and crews have fled.

GOTTENBURG, AUG. 27.—According to accounts from Inkeping, 250 persons had died, and 400 patients remained. At Uddewalla there have been 66 deaths out of 167 patients: at Krunstad 38 out of 104; at Marshaur 15 out of 40; at Kongelf 7 out of 19. The number of deaths here may be reckoned at 2,200; but the disorder is manifestly abating.

STOCKHOLM, AUG. 26.—His Majesty yesterday held an extraordinary Council on measures against the cholera. Unhappily there is no doubt of its having broken out here, and it is probable that the capital will be declared infected before the day is ended. The first known cases were the day before yesterday, 15 in number; 10 of the patients were sent to the hospital, of whom two died on the way, and two after they arrived.

In the interior of the kingdom the cholera is spreading, and has appeared at Stronstad, on the Norwegian frontiers. Count Roun writes from Gottenburg that the citizens had granted $30,000 to the cholera hospital.

LATER STILL.—We have, by the Mariposa, papers to the 11th ult. inclusive, from London, for which we are indebted to the Captain.

The Times of the 11th, says—"We have by express the Paris papers of Tuesday, (9th inst.) The intelligence they bring from the frontier continues vague and not very satisfactory. It states that Don *Carlos* had gone to Biscay, and that *Rodil* is pursuing him. *Rodil* had taken great pains to remain master of the entire valley of the Bastan."

The measures of the Spanish Ministry respecting foreign loans made to Ferdinand, are exciting much interest in France, where chiefly the loans were effected. A petition was presented by the bondholders on the 6th September to the King of the French, and it is apprehended that the measure of the Spanish ministry, which is no other than a refusal to recognize those loans, might lead to an interruption of the good understanding between the people of France and Spain.

A Court Martial had been held on the officers of the Castor frigate, for running down the Chameleon-cutter in the Channel, which resulted in the dismissal from the service of Lieut. J. J. McCleverty, who was the officer of the watch, for not "keeping a proper look-out on board the Castor." The other officers were all acquitted.

Efforts had been made, without success, to weigh the Chameleon. The bodies of the crew had been found, and generally in a sadly mutilated state.

LATER FROM EUROPE.—By the Orpheus, from Liverpool, we have papers from that port of 16th, and from London, of 15th ult.

There is little of moment in these papers.

Advices from Madrid are to the 5th. The Spanish Cortes had, after a long discussion declared by a vote of 57 to 55 to abolish the censure of the press. Hereafter the press is to be free;—this is one of the most important measures ever adopted, and will in its effects be productive of immense benefits. All was going on well in Portugal.

France was quiet.

[*From the London Morning Herald, of Sept.* 15.]

We have received by express, the Paris papers of Saturday and Sunday, together with letters from our correspondents in Constantinople, Madrid, Bayonne, and Paris.

The intelligence that has reached us from Spain by this conveyance is important. The *Journal de Paris* of Friday night last, contained a bulletin, a copy of which will be found subjoined. This document proves that the Queen's officers and troops in the Basque provinces were as actively occupied as ever by the insurgents, but no engagement had yet taken place between those belligerents. El Pastor had moved on Biscay, Rodil had left Tolosa for Azcoytia, Don Carlos was at Orsco. Our Bayonne letter, dated 9th inst., conveys to us some details of the proceedings of both parties, which show that neither had the slightest idea of withdrawing from the contest. Don Carlos was continuing to confer on deserving individuals the decorations of the Royal Orders of Spain with as much gravity and apparent sense of security as if seated in the Escurial. He had—with a view to expose the positive intervention of the French—forwarded to the Emperor of Russia the original letter of General Harispe to General Rodil, which had been intercepted by Zumalacarreguy at Locumberry some weeks since, and attested copies of it to the other Members of the Holy Alliance.

PARIS, September 13th.—The Bourse has been inundated during this day, with reports of the dissolution of the Spanish Ministry, said to have been received here by a courier who left Madrid on the 9th instant.

Although nothing is more likely to be the fact than that such an event has taken place, I am inclined to believe that the report is premature—at least it is quite impossible that a courier could have reached here in four days, as in the most tranquil times, and by the most direct road, the journey between Madrid and Paris was never made in less than 102 hours.—Up to a late hour of this forenoon, the French Government had not received from the Spanish capital despatches of a later date than are your own private letters, which I transmit herewith—the 5th inst.

On the subject of the Spanish debt, it may not be out of place to observe here that on Thursday last a deputation of the French creditors of Spain had an interview with Admiral de Rigney (Minister for Foreign Affairs,) at his hotel in Paris, and were informed by him that the French Ambassador in Madrid, was doing all in his power to prevent the meditated breach of faith with the French creditors.

Our private letter from Constantinople, is dated the 19th ult. The Sultan, it will be seen, had abandoned his hopes of re-possessing the former provinces of Syria, and had desisted from his intention to support the insurrection against Mehemet Ali, solely from want of means.

The Parisian public is at this moment attracted to the Royal Library, to examine the manuscript autograph memoirs of Cardinal de Retz, which have been found amongst the papers of the late Count Real.—[Galignani.]

A curious anecdote is related of the cause of Mr. Rothschild's recent heavy loss by the fall of Spanish stocks. Mr. Toreno, the present Minister of Finance in Spain, was exiled by Ferdinand VII. for having been President of the Cortes in 1823. He resided in Paris for a long time, and having become very much reduced in his circumstances, applied to Mr. Rothschild for a loan of twenty thousand francs, which was refused. When Toreno, a short time since, was placed at the head of the Spanish department of finances, Mr. Rothschild proposed to him a financial operation, by which he, Mr. R. would have realized several millions: Toreno not only rejected it, but knowing that Rothschild was a large holder of Spanish stocks, proposed to the government the scheme of bankruptcy which has had the effect of suddenly depressing Spanish funds to such a degree as to cause a loss to Mr. Rothschild of twenty millions of francs.

Curious Coincidence.—When the Kent East Indiaman was on fire in the Bay of Biscay, the second in command, the present Lieutenant-Colonel M'Gregor, when all hope of relief had expired, wrote a letter describing their situation, which he enclosed in a bottle, and committed to the deep. Soon after his providential escape, and return to England, he was appointed to the command of the 93d Highlanders, then stationed at Barbadoes, to which place he proceeded immediately. Before his arrival, or soon after it, the identical bottle was picked up by one of the men of the 93rd on the coast of the island, and its contents brought to the very man who had written them.

Statistics of Greece.—According to the last census the entire population of Greece amounts to only 811,185 souls. In that kingdom there are 116 towns, and 2,146 villages, exclusive of those of the isles of the Archipelago, of which 33 only are inhabited.

Important Medical Discovery.—Two physicians, at Gottingen, have, it is declared, lately discovered that the oxyhydrat of iron is an infallible antidote against arsenical poison. As the oxyhydrat of iron is perfectly innocuous, this discovery is peculiarly interesting.

MEMS. FOR WINE-DRINKERS.

(*From Busby's Journal of a visit to the principal vineyards of Spain and France.*)

MANUFACTURE OF CLARET.—The finest Clarets of Bourdeaux are mixed with a portion of the finest red wine of Hermitage, and four-fifths of the quantity of the latter which is produced are thus employed. The wine is racked off the lees in spring, and sulphured. A very small piece of sulphured match is burnt in the casks intended for the white wine; the red wine requires a greater portion. These matches are purchased from persons who make a business in preparing them. They are slips of paper, about one inch and a half broad, and, when coated on both sides with sulphur, are about the the thickness of a sixpence. A piece of one inch and a half square is sufficient for a cask of white wine containing fifty gallons.

DESCRIPTION OF THE CELEBRATED HERMITAGE VINEYARDS.—The hill of Hermitage is so called from an ancient hermitage, the ruins of which are still in existence near its top. It was inhabited by hermits till within the last 100 years. The hill, though of considerable height, is not of great extent; the whole front which looks to the south may contain 300 acres, but of this, though the whole is under vines, the lower part is too rich to yield those of the best quality, and a part near the top is too cold to bring its produce to perfect maturity. Even of the middle region the whole extent does not produce the finest wines. M. Machon, the gentleman whose property we were traversing, pointed out to me the direction in which a belt of calcareous soil crossed the ordinary granitic soil of the mountain, and he said it requires the grapes of these different soils to be mixed in order to produce the finest quality of Hermitage. I took home a portion of the soil which he pointed out as calcareous, and the degree of effervescence which took place on my pouring vinegar upon it indicated the presence of a considerable portion of lime. It is probably to this peculiarity that the wine of Hermitage owes its superiority, for, to all appearance, many of the neighboring hills on both sides of the Rhone present situations equally favorable, although the wine produced even upon the best of them never rises to above half the value of the former, and in general not to the fourth of their value. A good deal may also be attributable to the selection of plants. The best red wines of Hermitage are made exclusively from one variety, and the white wines from two varieties; but in the district generally a much greater number of varieties are cultivated. The Red Grape is named the Cyras. The white varieties are the Rousette Marsan. The former yields by itself a dry and spirituous wine, which easily affects the head; the plant produces indifferently—the latter yields a sweeter wine—they are mixed together to produce the best white Hermitage.

MODE OF PREPARING CHAMPAGNE WINE.—The very eminent wine house of Messrs. Ruinart and Son, of Rheims, are agents for Herries, Farquhar and Co's notes. Having called upon them to cash one of these, M. Ruinart, junr., conducted me over the wine cellars, which are very extensive, and all subterranean, consisting of three under-ground stores, one beneath another, all mined out of the lime stone rock. The wine, which has received the last attention which it requires, and is ready for expediting to the consumer, is packed in large square masses, bottle above bottle, and side by side, with no other precaution to keep them steady than a lath passing along beneath the necks of one layer and the butts of the next layer above. They generally send the wine to the consumer at the age of three and four years, but after the first winter it is all put in bottle. The stock, therefore, appears immense, and indeed it is very large; for not only are different qualities required, but also different descriptions, to suit the varying tastes of their customers in England, America, and Russia, to which countries Messrs. Ruinart make their chief exports. A gentleman, with whom I travelled, told me that he could buy very good sound Champagne at Chalons for two francs a bottle, and

was then going to purchase 100 bottles at that price, but respectable wine merchants never send any to England under three francs a bottle. What is sent to England is more spirituous, and froths more strongly than what is sold for domestic consumption. The greatest and most minute attentions are necessary in preparing Champagne. The casks in which it ferments, after running from the press, are previously sulphured to prevent the fermentation from proceeding to too great a length. It is twice clarified during the winter, and in the month of March, before the return of spring has renewed the fermentation, it is bottled off. When in this state, the bottles are placed in frames, diagonally, with their heads downwards. The lees are thus collected in the neck of the bottle, but they do not consider it necessary to uncork the bottles as soon as the wine is perfectly clear, nor is it considered that there is any danger of the wine spoiling, if the return of warm weather should cause a recommencement of the fermentation, and remix the lees through the wine. On the contrary, they sometimes allow the lees to ripen, as they term it, longer than usual. The wine, in general, remains in this state, till the following winter; each bottle is then placed in a frame and carefully uncorked. The contents of the neck of the bottle are emptied. It is filled up from another bottle of the same wine, and, being recorked, only requires age to give it all the perfection it is capable of. It of course often happens, that the wine has either undergone less than the usual fermentation, or, being stronger than usual, requires a greater fermentation before being put into bottles; and it consequently happens that the fermentation in the bottles is greater than they can bear, and that a large proportion of them burst during the first summer. The floors of the wine cellars are all covered with grooves, sloping to a gutter, by which the wine that has burst the bottles is conveyed to a cistern in the floor, and, as there is the most perfect cleanliness observed, a part of the wine is thus sometimes saved.

[*From the London Literary Gazette.*]

A TALE OF THE SEA.

"Sam L——was a lad of a temper as joyous and as kind as ever was wedded to a daring spirit. He was not of that class called nobly born: his name had shed no lustre on his dawning fortunes; so, if recorded, it could add no interest to his story. His honest ambition was 'to build, not boast,' the credit of a name which he derived from an humble house; and, poor lad! he died too young to reap the glories to which his warm heart aspired. It is inscribed only on a small stone raised, in a foreign land, by the affections and esteem of his messmate, who

> 'Still, through the wild waves as they sweep,
> With watchless eyes and dauntless mien,
> Their steady course of honor keep;'

and they loved him well, because they had known him nearly. At nineteen, he had passed for a lieutenancy; and by that fortune which sometimes forms a young seaman's early fame, he was placed in command of a clipping privateer schooner, made prize of by the frigate on board of which he served. She had been captured on an enemy's coast, and his orders were to join in her the admiral's flag, which was flying some fifty or sixty leagues off on the station; and few who have not felt can know the joy of a stripling's heart who finds himself sole master of a separate command, and knows that he has skill and resources for it. For two days nothing happened to vary the ordinary log of a beating passage in light winds. The third day was a thick fog; and, as it cleared up towards evening, with a rising breeze, a stranger was seen to windward under three topsails: and what could he do but trim sails to reconnoitre? 'Tis true, he had no orders but to proceed with due diligence to his station; but to go about and stand on for an hour on the other tack, and so edge a little nearer the stranger, would by no means take him out of his course; and who is there but knows that one of a seaman's first duties in war-time is, when not under orders positively to the contrary, to gain all intelligence of a suspicious looking sail? He had not gone upon the starboard tack above half an hour, before he saw another large sail, hull down, on his lee bow; and the last sunbeam was now red in the west. It was plain that he could not hope to bring either of the ships within distance before dark to shew colors; but they made more sail, and the headmost bore up a little as to near him. He now tacked again, and feeling that he had no right to run into strange company at night, he kept a point or two free under easy sail, in a parallel to the course she was steering, trusting to a good sailing craft, and a commandisg breeze, and a good look-out withal. As it became dark, he tried his night signals. For awhile there was no reply; and then the headmost ship shewed lights: but her answer was unintelligible to him. The code of night signals in the British navy was, at that time, imperfect, and subject to many mistakes. At daybreak they were both on his weather quarter, the nearest about three miles off; but two more large ships shewed their lofty sails on the horizon. It was a clear morning; and the leading frigate—for frigate the two first were—now signalized him; but her flag spoke a language as foreign to him as that of her lights had been the night before. Both had the ensign of England streaming from the peak; but it was most improbable that an English squadron should be cruising on that part of the coast; and now his private code was tried in vain; and something there was in the cut of the sails, but more in the way of handling them, which almost convinced him that they were foreigners. The moment was an anxious one; but it was to Sam one more of mortification than anxiety for the fate of the charge intrusted to him. He had a good clean craft beneath his foot, and, let the weather but keep moderate, and not too much sea, come what would, he had reason to believe that, holding a steady luff, the schooner might yet weather upon their square sails, so as to get to windward of them without passing within gun-shot; but he knew that his duty was not to risk his prize when nothing was to be gained; and little to be sure was to be gained by working up to overhaul two strange frigates, and two other ships of war, proud though he was of his command, in a schooner mounting eight twelve pound carronades and a long traversing gun amid ships. So now shaking out the last reef from his foresail, he prepared to carry on, and a regular and eager chase began. For a time, he believed he was increasing his distance from the leading ship. At all events, he stood nearer the wind, and she was not preceptibly fore-reaching on him; and her consort was evidently dropping fast astern. But alas! the clouds rose black as thunder on the horizon, the white horses came speeding along with them in the distance, it had already begun to blow strong, and the wind was gradually drawing more aft and bringing the pursuer nearly on his beam. The vessel groaned and staggered under the pressure of sail; the sea curled high over her lee, and sheets of spray at every pitch came flying over all. Suddenly the headmost frigate, which was now gaining rapidly on him to within long gon-shot range, hauled down the colors she had worn, and hoisted a different ensign at her peak. It was the one which, at that moment, Sam could least have wished to see; it was that of a gallant nation, between which and England long may it be before again a cannon shall speak in anger. A gush of white smoke issued from her bow; and, before the sound of the threatening message could be heard, a shot came skinning over the tops of the waves right ahead, of the schooner. Presently another, which passed over her, between her masts, but struck nothing. 'Now point the long traversing gun, and cast loose the weather carronades, against closer work; for here's what tells us she's within distance already of our midship challenger.' Something might be brought down by it which might slacken the frigate's pace, and save the little vessel yet: so up went the union; and as the schooner lurched, Sam himself, with a ready hand to the lock lanyard, quick answering to a ready eye, fired the first shot in reply, and jumping up on the slide, saw it strike right under the frigate's cutwater. 'Give it her again, my hearts!' The second shot parted. 'Well done, long Bess!' bellowed the mate, the glass to his eye; 'splinters near the forcastle!' Again!—when an eighteen pound ball came in from one of the enemy's bow chasers, struck a timber head, and two men lay in blood upon the deck: the one a mangled corpse, the other with a leg knocked sheer from under him. 'Luff her up a bit!' cried Sam, still firmly looking at the advancing ship, whose bow now towed high above the water. 'Starboard the helm! Now watch your time, men; stand by for a broadside!' Six of the schooner's eight carronades had been run out to windward; and, as she luffed up to bring them to bear upon her adversary, the fire of the whole weather side was given at once. Her slight frame heeled from the explosion of her own guns, and she quivered from the centre to the mast-head: and, hurrah down came the frigate's driver; but, in an instant after, as her helm went down, and her head sails shook in the wind, the red muzzles of the whole tier, to her quarter guns, appeared, and a tremendous broadside from her main deckers followed, as she luffed and came up to deliver it. The schooner's counter was torn up to the very bulwarks: three men were, as it were, blown away before the blast of the artillery, and a splinter striking the young commander near the chest, broke his left shoulder, and dashed him down against the side. The gallant youth sprang up: his arm hung mangled, and the blood gushing forth from his month, showed what had been the violence of the blow; but his courageous eye, unclouded yet by pain, lit up with matchless energy. 'Stand to it, my hearts, my darlings!' he shouted; but the whole mischief now appeared. As the wounded boy staggered once more to the weather bulwark, to hold on, he looked up. The crippled mainmast reeled.—'Lower away! lower away!—ease off the fore-sheet, and put her right before it? For a few moments the fight was silenced. All hands were busy aft in getting up a preventer shroud and fishing the mainmast; and, as she was falling off, another broadside came from the frigate's quarter deck. The havock was not so great as before; but an unlucky shot, ranging forwardunder the bows, severed the bobstay. The powerless bowsprit could no longer stay the foremast, as it swayed forward and aft with the send of the sea. "Get out a tackle forward!—up with the helm! Hard! But it was too late! The weakened mainmast, now deprived of all support, broke short off where the shot had entered. It fell with a tremendous crash: the deck, forward and to leeward was overwhelmed with a mass of confused ruin; and the vessel was left rolling on the swell, a defenceless wreck. 'Will you strike, sir?' whispered the mate! 'see your men lying about—and—' ——'Never;' exclaimed Sam, in the last excitement of a dauntless heart: 'not I! Haul in the ensign that's towing there alongside, and send a hand,' pointing upwards, 'to stop it to that stump there.' I suppose,' continued he, in a lower tone—'I suppose they'll have it down without us soon. I see she's lowering a quarter-boat We have but to wait for them now!' He sat down on a carronade slide. His face was deadly pale.—Suddenly rising, he drew his hanger from its sheath, and, with a strong blow, broke it in two, across the carronade. His father had given it to him at parting, On its blade was engraved a powerful talisman—'England expects every man to do his duty!' As the first boat (for two were lowered and manned) pulled up under the stern, he flung the pieces into the deep, and again sunk upon the deck, his face resting downwards on his right arm as he lay. 'Mr. L.——, sir,' said the mate 'they're alongside. Look up, sir. Come, sir, dont be ashamed; you've fought her well, and they wont make much of the prize, at any rate. Oh, Mr. L——, I hope you're not much hurt, sir. All's over now!' He raised his brave young officer in his arms. Yes, all was over, indeed! He never spoke again, nor did his eyes ever more unclose, to see his darling first command in the hands of another! But a gallant enemy did honor to his memory, and to his remains. All nations have brave men: and so,

> "God rest his soul!
> Sith 'twill no better be—
> We trust we have, in this our land,
> Five hundred good as he."

THE RAINBOW.—By Felicia Hemans.

"I do set my bow in the cloud, and it shall be a token of a covenant between me and the earth."—Gen. ix. 13.

Soft falls the mild reviving shower
From summer's changeful skies;
And rain drops bend each trembling flow'r,
They tinge with richer dyes.

Soon shall their genial influence call
A thousand buds to day,
Which, wanting but that balmy fall,
In hidden beauty lay.

E'en now full many a blossom's bell
With fragrance fills the shade;
And verdure clothes each grassy dell,
In brighter tints arrayed.

But mark that arch of varied hue
From heaven to earth is bowed!
Haste! ere it vanish, haste to view,
The rainbow in the cloud!

How bright its glory! there behold
The emerald's verdant rays;
The topaz blends its hue of gold
With the deep ruby's blaze.

Yet not alone to charm thy sight
Was given the vision fair;
Gaze on that arch of colored light,
And read God's mercy there.

It tells us that the mighty deep,
Fast by the Eternal chain'd,
No more o'er earth's domain shall sweep,
Awful and unrestrain'd.

It tells that seasons, heat and cold,
Fix'd by his sovereign will,
Shall, in their course, bid man behold
Seed time and harvest still.

That still the flower shall deck the field,
When vernal zephyrs blow,
That still the vine its fruit shall yield,
When autumn sunbeams glow.

Then, child of that fair earth, which yet
Smiles with each charm endow'd,
Bless thou his name, whose mercy set
The rainbow in the cloud.

NEW-YORK AMERICAN.

OCTOBER 18—25, 1834.

LITERARY NOTICES.

THE DISTICT SCHOOL; by J. ORVILLE TAYLOR, 1 vol. New York: HARPER & BROTHERS.—This admirable volume, of which we have before spoken more than once, is now out. It is very creditably published by the Harpers, and we again commend it to general circulation.

Its aims, its execution, and the interest which the community at large have in becoming acquainted with it, are all so well set forth in the annexed preface, —written at the request of the author for the work by JOHN DUER, Esq.—as to supersede any remarks of our own, and sanction the transferring to our columns of the whole of that

PREFACE.—It is to parents and teachers, and in a measure to legislators, that this work is addressed; and on the minds of those who will read it with the necessary attention it cannot fail to make a most salutary impression. The title is modest and unpretending; the style though eminently clear and forcible, plain and unlabored; but the subjects of which it treats, and well and ably treats, are of the very highest importance,—far more important than the topics which are usually discussed in our halls of legislation, and which, dignified by the eloquence of statesmen, and exagerated by the arts of popular declaimers, have sometimes fixed the attention and agitated the passions, of the whole community. The reflections of the author are evidently the combined result of experience and extensive and accurate observation; and he writes with that earnest simplicity which is the never-failing proof of sincerity, and which, it may be hoped, will transfer to the minds of his readers a portion of his own generous and disintetested zeal,—his zeal in the cause of public improvement and general happiness,—the cause to which he has consecrated his talents, his attainments, and his future life.

Entertaining this sense of the value of his work, I have felt it a duty to comply with the request of the author by contributing this brief preface; nor have I been unwilling, I confess, to connect my name with a publication which, should its circulation be as extensive as it may, and ought to be, will perhaps mark an era in the history of public instruction.

To inforce the duty and necessity of extending to all the benefits of education, in the full and true sense of the term,—to expose the defects of the system of primary instruction which now prevails,—and to suggest some of the appropriate remedies, is the design of the work. On some of the subordinate topics of discussion, differences of opinion may and will exist; but all who are competent to judge, and will give their due attention to the facts which this book discloses, must unite in the conclusion, that our present system of popular education is radically defective. It is on this point chiefly that the public mind requres to be disabused; it is in relation to this that there exists—I speak especially of this State—a very general delusion. We are told that under the fostering patronage of the government, more than half a million of children are taught in our common schools,—our pride, as citizens of the Empire State, is gratified and we content ourselves with the general statement, omitting to enquire, into the character and value of the instruction which is thus imparted; we know not, for we care not to know, that it is in truth so imperfect and scanty as hardly to deserve the name even of elementary—that it is unconnected with any thing resembling moral discipline or the formation of character,—that the teachers, inexperienced, transitory, snatched up for the occasion, are paid by salaries which hardly exceed the wages of the menial servant or the common laborer,—and that, as a necessary consequence, ignorant and disqualified, they are perhaps even overpaid by the pittance which they receive. Yet it is in such schools and by such instructors that thirty-eight out of forty of the children of the nation are, as we phrase it, educated. We have lived in a pleasing delusion; but it is time we should awake. It is time that we should cease to boast of the superior intelligence of the American people, as compared with that of the population of the Old World; we must no longer refer to our common schools as furnishing at once the evidence and explanation of the asserted fact; it cannot be concealed, and ought not to be denied, that under one of the most arbitrary governments of Europe, (despotic in its form, but in its present administration most enlightened and paternal,) the children of all, even of the meanest peasant in the kingdom, are receiving, in their village and parish schools, more varied and solid, and in every sense valuable, instruction, than any of our schools, I had almost said academies, are accustomed or competent to furnish! The fact is certain: what reflections must it suggest to the minds of Americans who truly honor and love their country and its institutions!*

It is to parents and teachers, as already stated, that the exhortations of the author are principally directed, and it is from their voluntary exertions that he seems to expect that reform, the necessity of which he has so clearly established. He admits that the school systems in active operation in many of the States are wisely organized: and that in many (meaning to include our own) "all that legislation can do has already been done." From this last opinion I am compelled to state my entire dissent. Looking to the models of Germany and France, no "system of public instruction" has yet been organized in any of the States, and in none has the appropriate work of legislation been more than commenced. I do not hesitate to avow the belief, that without regulations far more extensive than have yet been introduced,—a control far more enlightened and constant than has yet been exercised,—and fiscal aid far more ample than has yet been afforded, it is vain to expect that the character of our common schools can be truly and permanently improved. It is conceded by all that nothing can be done without competent teachers, and such teachers, in the number and of the qualifications required, we can never have, unless they are properly *trained*, and properly *examined*, and *watched*, and *controlled*, and, above all, properly *rewarded*.

Neither the districts, nor the towns, generally speaking, are willing or even able to select or reward such teachers, and still less to prepare them for their functions, and direct them in their labors. If good is to be done, we must bring our minds as soon as possible to the confession of the truth, that the education of the people, to be effectual, must here as elsewhere, to a great extent, be the work of the State; and that an expense, of which all should feel the necessity, and all will share the benefit, must, in a just proportion, be borne by all.

It is true that the public mind must be prepared for legislative action, and the belief of the value of that education which alone merits the name must be far more pervading & serious than it now is before legislatures will have the inclination or courage to act.

The dissemination of this book, and of the truths which it contains, will tend thus to prepare the public mind, to produce the right state of feeling and of thought; for assuredly it will not be read in vain by parents who are such in heart and in conscience, not in name merely.

There are some truths which it may be painful to confess, yet are most necessary to be known. To the reflecting and the candid it will not seem extravagant to say that the chief source of the evils, the disorders, the crimes which aflict society, is to be found in the heartless indifference of the higher classes, the rich, the educated, the refined, towards the comfort and well-being of those they term or deem their inferiors; and their consequent neglect of the intellectual and moral improvement of those who always have been, and it would seem by the order of Providence, always must be the most numerous class —those who depend on their daily labor for their daily support. It is this neglect, the alienation it produces, the ignorance it perpetuates, the vices it fosters, which leave marked the broad line of separation, on the one side of which are the few, indolent, disdainful proud, on the other the many, restless, envious, discontented. It is this which keeps the minds of the multitude in a constant state of irritation, and which when the base demagogue seeks to array the poor against the rich, collects the crowd of his willing auditors, and arms him with his dreaded power. It is this which caused the atrocities of the French Revolution, and which deepens and darkens the cloud that now hangs over England. It is this neglect—the grand crime of civilized and Christian society, which, in every country, sooner or later, and in none more certainly than in our own, if continued, is destined to meet a fearful retribution. Here most emphatically is it true, that the people must be raised to the level of their rights and duties, must be made the safe depositaries of the power which they possess, or in the history of other republics we may read our own fate:—first, lawless anarchy—next, the calm which fear and the bayonet produce—the calm of military despotism.

How then are these evils to be prevented?—this fate to be averted? I answer, all that is odious, all that is dangerous in the distinctions which the free acquisition and the lawful enjoyment of property must always create, will soon vanish, and all classes be united in the enduring bonds of sympathy and gratitude, when the rich (I include all who have the leisure or means to bestow) shall understand and feel that it is their paramount duty to improve the physical and elevate the moral condition of their fellow-beings, or, to express nearly the whole in one word, —to educate the poor.

Let those on whom the burthen ought to fall willingly assume—cheerfully sustain it, and there will be no further obstacle to the action of the Legislature, no further difficulty in organizing a system effectual, permanent, universal.

All that has been done in Prussia, and is about to be done in France, may be done here, and neither the patriot, the philanthropist, nor the Christian can desire more.

* The admirable report of M. Cousin to the French government, "On the State of Public Instruction in Prussia," the publication of which has excited so lively an interest in Europe as well as in France, has been lately translated by Mrs. Austin, the authoress of the very best translation in the English language,—that of "The Tour of a German Prince." This report, together with the admirable preface of Mrs. Austin, ought without delay to be republished in this country.

BELGIUM AND WESTERN GERMANY IN 1833, &c. &c.; by *Mrs. Trollope*, author of Domestic Manners of the Americans: 1 vol., 8vo. Philadelphia: *Carey, Lea & Blanchard.*—If, the author of this new tour puts, as she would seem to do, her claims to patronage for her books, on "the Domestic Manners of the Americans," we Americans may truly say, that we acknowledge benefits, though she may have intended none, from her aforesaid work. With much that was bad in purpose and in spirit, exaggerated in tone, and frequently mistaken, if not false, in fact, there is in the pages of the "the Domestic Manners" a great deal of wholesome truth and well merited satire. This, we know, is not very palatable doctrine, but we think it sound, and are sure that our national vanity, and sensitiveness to foreign opinions, need checking.

Of the Belgium, &c. we have little to say. It is pleasantly written; somewhat less than usual in the true *John Bull* style of finding nothing abroad as good as at home; and not purporting in a rapid summer tour to give absolutely a full insight into the Belgian and German character. We annex the concluding pages of the volume—epigrammatic enough —yet being testimony to one great truth, we so much desire to enforce in our own land, that popular education, as conducted and understood in Germany, is the only enduring source of power and content.

I have other reasons, still, for wishing my countrymen to visit Germany. I doubt whether there be any place on earth where at this moment so much precious wisdom is to be found;—and it is taught, too, in a manner the least unpalatable; for Germany follows not the custom of these latter days, but is more given to practice than to preach.

France, for nearly half a century, has been making herself heard among the nations; proclaiming aloud that she will give them such a lesson in political science, as shall render perfect the condition of man. There are some who still love to listen to her; but more, perhaps, who think she has yet to learn the mystery she is so anxious to teach.

For about the same period, America has been lifting up her voice to the self same tune—and there are some, too, who still listen to her. But, while the discordant accents of her motley race declare "Thrones, Dominations, Princedoms," to be pernicious excresences, there is a general feeling among the sober-minded, that she is talking of she knows not what.

Spain—proud Spain—reels to and fro; and staggers like a drunken man; and is at her wit's end.—She is tossed, as a buoy upon the waves, indicative of shoals, and rocks, and wreck; but she has no light to lead any into port.

"Sad and sunken Italy, the plunderers' common prey," has neither power to give, nor to take counsel.

Gigantic Russia shines afar off—a thing to wonder at, rather than understand.

And England—England, who has stood unscathed,

while the whirlwind raged around her—how fares she in this "piping time of peace?" Truly, she is much in the state of lady Teazle's reputation—ill of a plethora. She has been triumphant—but the thought of it makes her sick. She has been free—but would mend her condition. She has drained wealth from the four quarters of the earth—but she would change all this. She must make alterations, grow slender, and cease to be sleek and contented, that she may be in the fashion.

And what has confederated Germany been doing the while? Storm and tempest have beat against her; but, true to herself, she has only risen stronger from the blast. The flood of war has swept over, but could not overwhelm her; and though nations, which bore not one half her burden in the struggle, are beat down to rise not again,

> "She tricks her beams, and with new spangled ore
> Flames in the forehead of the morning sky."

And why is this? Let us visit her well ordered cities—let us look at the peaceful industry of her fields:—and, though we shall perhaps find her talking and writing less upon government than most other nations, we may gain a lesson that shall help us at our need.

Yet Germany, too, is seeking to ameliorate the condition of man, and is foremost in the race of intellectual improvement. Let us visit her, and see what are the means she takes to ensure it. She turns not her strength to uproot and overthrow all that man, in his social state, has hitherto held sacred; nor does she labor to force Nature from her course, in order to make level that which the Creator has decreed shall rise and fall in ceaseless inequality;—but, with steady power, she pursues the only scheme by which man may hope to benefit his species. She gives her people knowledge, and suffers not either ignorance or tumult to banish "the sage called Discipline" from the land.

A Visit to Texas. 1 vol. Goodrich & Wiley, New York.—We know not who this traveller is, but his journal is a plain, straight-forward, unpretending one; and as it reveals a system of humbug on the part of "the Galveston Bay and Texas Land Company," we may do good service by copying the annexed statements:

On my return to Brazoria I found two gentlemen had arrived from San Felipe during our absence, and, with a wish to obtain all possible information concerning the nature of the land I had purchased, and particularly the title which I held, I songht them out. I was gratified to find that one of them was a gentleman to whom I had a letter of introduction, and from whom I had expected to derive the information I desired on arriving at San Felipe, whither I had designed to proceed, as I knew he had been there to make inquiries for himself, being interested like me in a purchase of the Galveston Bay and Texas Land Company. I soon ascertained from him that my worst fears were too well founded, and that my hopes were all fallacious. He had already renounced his own expectations, and lamented his disappointments.

I had now some painful and mortifying reflections to make after the receipt of the informatiun I had obtained in relation to the principal object of my voyage. I found that my confidence in the names of a few respectable individuals appended to the advertisements of a company, had betrayed me into mucn disappoitment, as well as some pecuniary loss. Although I could not doubt that men of honesty, on learning the state of the case, would be forward to repay me the money which I now saw that I had paid them for nothing, I could not look for an adequate renumeration for my travelling expenses, or the interruption of my business.

On an examination of the subject, with the facts now before me, I found such was the situation of thiugs, that I derived no advantage whatever from the payment of money I had made, having not a foot of land, nor any claim to offer, superior to that of any other man who might come into Texas from a foreign country. I might easily obtain a quarter of a league of unappropriated land, on condition of professing the Roman Catholic religion, becoming a citizen of the Republic of Mexico, and residing on the soil for six years, receiving the title from the government; but not otherwise; and this was a standing offer to any person who might choose to accept it. In case of marriage, either before or after the contract, the amount was to be quadrupled. The government had never conferred on any individual or company the title to any extensive tract of land, or authority to stipulate for any thing beyond, or contrary to these conditions.

Maps of Texas published in the United States indeed represent the territory as almost covered with what are generally denominated Grants or Colonies: but they are neither one nor the other in the common meaning of the terms. I had been extremely [illegible]ed on this important subject.

The Mexican Congress in 1824, passed a general law to encourage emigration, which they recommended as the basis of laws to be passed by the several states. The object of the plan was, to admit Roman Catholics of good character willing to become citizens of the country, but to exclude others. Such laws were passed by the States, and, among others, by that of Coahuila and Texas. Under this system the agency of contractors was engaged, who are called empresarios, or undertakers. To them were assigned the tracts improperly called grants or colonies, into which they were to introduce certain numbers of setlers, on specified terms. These were generally as follows: that if the assigned number were introduced, of the character and description required by law, within a special term of a few years, and became permanent settlers, without expense to the government, the empresarios should receive five square leagues of land for every hundred families introduced. The settlers, after proving their "religious" character, as it is called, (that is, furnishing evidence that they are Roman Catholics,) and after signing their contracts, &c, according to law, and paying certain charges, were to receive from the government a clear title: a single man to a quarter of a square league, and a married man to a whole square league.

Thus the settlers had not to purchase a title of the agent or empresarios, nor was the latter authorized or enabled to confer upon the settlers, either for money or for nothing, any advantage or benefit whatever, beyond those offered by the government, as just stated, to any applicants who would comply with the fixed conditions. It might be more convenient for strangers to obtain information through agents or empresarios; but they were not expected to obtain them under more or less favorable terms than if they made direct application to the state government through the proper authority. Settlers were not in fact, prevented from applying to which they might choose: for even in the tracts marked off on the maps to different individuals, the government exercise the right of settling as many as they please, and in terms claim the surplus after the stipulated number of settlers shall have been located, and the empresarios renumerated with the tracts. In some of them are also comprehended tracts conferred upon officers of the army, generally eleven miles square, and with titles vested, though they are still for the most part unoccupied.

Now, through ignorance of these circumstances I had been led into a foolish bargain, from which a plain statement like that I have here made would have saved me, if it had been made in season. Had the facts been distinctly published in the U. States, they would also have prevented many occurrences, much more to be regretted than the mere loss of time and money, which I had suffered. This statement I have now here brought before the public: so that if any one hereafter makes a wild goose chase of the kind, he may not, like me, be able to plead entire ignorance of the case.

In a subsequent part of the volume, the writer adds, "that on his return to New York, he got neither remuneration nor sympathy from the Trustees of the Land Company, for his fruitless expenses and diappointments."

We were quite amused with our traveller's adventures with his "white mustang," the little wild horse of the country, and at the tricks and knowing character of those animals. Take the following as an instance. The "white mustang," at a moment when it was urgent for his master to proceed on his journey, seemed very ill—refused to eat, and, to all appearance, was going to die. Thinking, however, his horse might as well die on the road as in the pasture, the traveller resolved to push on.—The sequel is thus naively told:

We took our departure accordingly; and I had much dificulty in getting my horse out of the town. In a short time, however, he began to cheer up, and gradually quickened his pace until his strength and spirits were quite restored, and he travelled remarkably well. However strange it may seem, there was every appearance that the whole affair had been a mere trick of the wily brute; and my opinion was confirmed by several inhabitants to whom I afterwards recounted the story. They told me that the sagacity and duplicity of the mustang is well known among them, and that he is capable of almost any thing, which ingenuity or malice can invent. So ungrateful a return for all my kindness and care, under such vexatious circumstances, and aggravated by such persevering imposture, added to my previous [illegible]ke of the animal which had been guilty of it.

The Works of Mrs. Sherwood, Vol. VI. Harper and Brothers, N. Y.—Another volume of this handsome, uniform stereotype edition of Mrs. Sherwood's works is here before us; and claiming, like all before it, by its contents and its mechanical finish, the support of the reading public.

The American Musical Journal, No. I. Vol. I. N. Y., Jas. Dunn.—We have looked over this first number of a new and much needed periodical with satisfaction. It is well done as to selections and original matter, and as to the mechanical but not unimportant parts of paper, type, &c.

The purpose is in a monthly 4to, of 24 pp. letter press, and eight pp. of music, to furnish choice pieces of music and criticisms, biography, anecdotes and narratives of remarkable musical performances, composers and performers.

Among the selected articles in this first number, is a very interesting memoir of *Handel*, and an account (abridged) of the late Musical Festival at Westminster Hall. Among the original matter, is a general review of musical performances in New York during the past year—not forgetting the single combat between *Gambati* and *Norton*, a matter treated in the right tone; and by which, by the bye, it is stated that each party pocketed $530.

It was a more profitable and pleasant "duello" to the parties than is usual in such cases.

We are glad to see this well got up Journal, and commend it to our musical readers.

Cecil Hyde, 2 Vols. Philad., Carey, Lee and Blanchard.—Without the spirit, the knowledge, or the pathos that belongs to *Pelham*, this novel dwells upon scenes of as lax morality. It is made up of incidents purporting to be familiar in the high life of England; but which it will neither profit the taste, the understanding, or the principles, of American readers to become familiar with. Wherefore we pass by *Cecil Hyde* without further notice, and recommend others to do likewise.

Poems, Translated from the French of Madame de la Mothe Guion; by Wm. Cowper, Esq. &c. &c. 1 vol. New York: Mahlon Day.—This is a republication from a little book that appeared more than thirty years ago in England, and presents the author of 'The Task' in the light of a successful translator of some religious French *Cantiques*. There are some original pieces, also, of Cowper's, and the whole is concluded by what is called "A Wreath of Forget-me-nots," or translations from a German religious poem, by *M. Yeardly*.

We conclude our Review to-day with the following unpublished *poem* by *Cynthia Taggart*, whose genius and whose afflictions have before interested our readers:

THOUGHTS ON AFFLICTION.

"Heaven sends misfortunes; why should we repine?
Can we escape the chastisement divine?
By fretful mourning through each trying hour,
Can we divest Omnipotence of power?
Be patient, and adore that Sovereign God,
Who rules the nations with an iron rod;
Breaking the flinty breast and stubborn will,
His grand designs of mercy to fulfil;
That we our guilt may own, and feel our need,
Bow to Jehovah, and for mercy plead.
His mercy's sovereign breath restores the soul,
And His own presence makes the sufferer whole.
Then why repine, or fretfully desire
To live in ease, and like the fool expire.
Beneath eternal vengeance, who can dwell?
And who but dreads the burning lake of Hell?
Are our hands strong; or can our hearts endure
The day of wrath that hastens and is sure?
Omnipotence no succor then can give;
The great Redeemer's thou wilt not receive,
The soul-keen anguish must forever bear,
No respite, no reprieve, no pardon there.
Though here we suffer, yet we can enjoy
A moment's respite, and our thoughts employ

On themes that may relieve: but ever there
Unuttered woe and infinite despair.

TEXAS.—We annex a statement from the trustees of the Galveston Bay and Texas Land Company, in reply to the extract published in last Saturday's Review from the book called "a Visit to Texas." We have also seen a copy of the certificate referred to, which no one certainly could understand as conveying any title to land, or any other advantage, than that of a permission to settle on the lands in question, after fulfilling the requirements of the Mexican law:

To the Editor of the American:

SIR: We send you a card for publication, in answer to the statements in extracts in your paper, from a book entitled "A Visit to Texas," and we request you to insert it. We will be responsible for its contents. Very respectfully yours, &c.

ANTHONY DEY,
G. W. CURTIS.

P. S. The other Trustee, Gen. Sumner, resides in Boston, or he would also sign this request.

A CARD.—In reply to the author of a book called "A Visit to Texas," so far as he has made imputations against the Galveston Bay and Texas Land Company and their Trustees, the public are referred to the certificate given by the Trustees, to this person, (if he had any) and to all others holding the same; and it will be seen that it purports no sale of land, but a permission to enter the Colonies, and acquire land according to law. The law is exhibited in a pamphlet published by the Trustees, and could have been seen by all, previous to an embarkation for Texas. That this person was met by a military force to resist his occupation of the lands, was a misfortune to him, and a deep one to the Company; and is not attributable to them. This was a violation of right, the result of the arbitrary and military government then existing in Mexico; and was a state of things not likely to exist again.

All obstacles to settlement are now removed,-and any person holding the scrip of the Company can obtain lands according to the tenor of the same. But the law in favor of Empresarios is clear, that no one can receive title within their boundaries without their consent; and this law can be seen on application at the Office of the Company.

The Trustees know not who is the author of the book, but will test the truth of his statements in relation to them by a legal inquiry.

All persons feeling an interest in these lands, can obtain information of the most satisfactory character relative to the title at the Office of the Company, No. 65 Cedar street, New York.

We also publish, in an editorial column—though in fact it is an advertisement—a notice from an authentic source, of Texas, its soil, climate, produce, &c., which may interest some of our readers.

[FOR THE NEW YORK AMERICAN.]

TEXAS.

This interesting country, at the present moment, attracts so much attention, and calls forth so many inquiries, that we are assured we shall render an acceptable service to the public in presenting the following information, derived from a source of accurate personal knowledge.

Under the Spanish dominion, Texas was a separate province, occupied by three military posts, La Bahia, St. Antonio de Bexar, and Nacogdoches; and settlements of Mexicans were formed around each, which grew into a considerable town at Bexar, of about 3000, and at Nacogdoches and La Bahia into villages of about 500 and 300 inhabitants. This number has not increased, and forms at present nearly the amount of the Mexican and Spanish population in Texas; an addition of 1000 would include the whole.

The country at large, in all its beauty and fertility, was left unoccupied, except by the wild horse, the deer, and the buffalo; all of which, amidst luxuriant natural pastures, have multiplied to an extent almost incredible. An intelligent trader among the Indians in the interior regions of that country, upon being asked, how many buffalo he had seen in one herd? replied, one million—meaning literally what he said; but it may be restricted to a declaration, that they could not be counted. The deer are still more numerous, and that noble animal, the horse, roves the country in gregarious masses, with all the pride and majesty of his ancestors. The progress of population has not diminished the number of either, but only limited their range.

Texas was but little known to our countrymen, until seen by the gallant bands who entered it, in aid of the patriot cause at different periods of the Mexican struggle for independence. They saw a country equal to France in extent, intersected with numerous rivers running hundreds of miles into the interior, producing in its various climate and soil, all the commercial staples of the whole American continent. They brought home this knowledge, and gave an account of its beauty, fertility and salubrity; and many were tempted to seek an abode there, in spite of the prohibition of the then existing laws.

Foremost in this enterprize was Moses Austin, who, about twelve years since, obtained from the Commandant at Bexar, permission to introduce settlers, repaired to the United States to procure them; but dying on the route, left his to son, Col. Stephen F. Austin, the fulfilment of his undertaking. On this gentleman's arrival at Bexar, he found the Commandant indisposed to comply with his engagements; and the revolution being accomplished, and a new order of things established, he determined to proceed to the city of Mexico, and there renew the proposal of introducing settlers into Texas. The result was the passage of a general colonization law, authorizing particular districts of country to be assigned to contractors who would undertake to populate the country. This law laid the foundation of a system which was made more liberal and extended by that of the State of Coahuila and Texas; under which were made the grants which have been the subject of so much enterprize.

Austin was the first to begin colonizing, and laid the foundation of the extensive settlements now existing in Texas. But others soon followed; and Zavala, Burnet & Vehlein were equally successful in their application for lands. They selected the district of country immediately on the boundary line of the United States, lying between the Sabine to the East, the St. Jacinto and Navoste to the West, and the Gulf of Mexico on the South, running North about 300 miles. Austin's settlement is contiguous, and lies on the western line of Vehlein & Burnet's, and embraces the rivers Brassos and Colorado. Grants have been made to others in different sections of the country more remote from our borders and all of good land. But the settlements from the Sabine to the Colorado being continued and nearer to us are better known, and can be described with more certainty.

Texas in general is a prairie country, having all the streams skirted by timber. This is more particularly its character after passing the Trinity, and as you advance to the northwest, the prairies are of vast extent. But in the grants of Zavala, Burnet and Vehlein there is less of prairie and more of woodland. They abound in beautiful natural meadows of dimensions from one to five hundred and a thousand acres, producing a luxuriant herbage at all seasons, but have a large proportion of woodland without under growth, affording fine pasturage and presenting the aspect of splendid lawns and parks prepared with the taste and labor of high cultivation.

On some of the rivers, the Brassos for instance, are dense forests, but they are never found on the high lands.

The mildness of the climate is such that no provision is made for horses, cattle, hogs, nor for any stock on a farm; Nature's ample store is sufficient throughout the year, and at all seasons they fatten on the natural pastures; of course they multiply rapidly, and Texas may be called the paradise of animals of the inferior order; and to man it is the land of promise.

That splended plant, the Indian Corn, grows throughout in perfect majesty, almost scorning the aid of the hand of man. From the gulf to an average distance of 70 miles, the country is level and forms the sugar district. At this point, about the latitude of 30 degrees, the surface becomes undulating and wheat, rye and oats can be raised; and one degree further north produces abundant harvests. Cotton is cultivated from the gulf to the Red river and yields largely, with a staple uniformly good; and near the gulf in length and fineness of staple, approaches the Sea Island Cotton. This is the great crop of Texas, and even at this period equals 10,000 bales. Sugar has for many years been made on the Trinity, within Vehlein's grant, and the cane ripens several inches higher than in Louisiana. Tobacco grows luxuriantly every where, and may become an important article of export. The grape is universal throughout the country and in great variety and sweetness. In Vehlein's grant an attempt has been made to cultivate the native vines, and the experiment has shown that wine of the best quality can be made from them, and we may promise ourselves at a future day, to have American wines from this country rivalling those of Europe.

But there is one remarkable character which it possesses over the country within the same latitudes in the United States. It is without swamps or marshes. Whatever insalubrity you find, arises from the inundations of the Spring season, and of course is confined to the rivers; and this ceases when you go about the flat country.

A country so inviting is of course rapidly settling, and it is estimated to have at this time a population of 3,000 Anglo-Americans. The Law of the 6th April 1830, which prohibited the citizens of the United States from entering the country as colonists being repealed, they are now going in and receiving titles to the finest lands in the world, at prices so low as to enable the poorest to acquire a large farm.—And a further inducement to emigrate to this delightful region is held out by the law now in operation forming Texas into a separate Judicial District, with a Judge of ability, a native of the United States; and an organization of courts similar to our own. The proceedings are required to be in the English language, and the right of trial by Jury secured in all cases civil or criminal. By another law it is declared that no man shall be molested on account of his religious or political opinions; thereby securing the rights of conscience and religious freedom. These two liberal laws were passed at the last session of the State legislature, and the first by the federal Congress, and approved by President St. Anna; showing fully the friendly feelings entertained towards Texas by the State and national authorities.

All is now quiet throughout the republic. Texas is never affected by the political changes and commotions in Mexico. The agitated wave is calmed before it reaches a shore so distant from the places where the storms arise. The disturbances which took place two years ago from outrages committed by the military have all subsided, and quiet long since restored. At present there is not a Mexican soldier in Texas, and it is more than probable that none will ever be sent there; certainly not beyond what may be necessary to protect the revenue.

The population of Texas is remarkably good for a border country. You cannot expect to find there the refinement and courtesy of older communities; but the virtue of hospitality is no where more manifest. Those who imagine that Texas is without the higher requisites for social intercourse are greatly mistaken. From the Sabine to the Colorado, and from the Nacogdoches road to the gulf, embracing the colonies of Austin and those of Zavala and Vehlim, good farms are opened, comfortable houses erected, many of them large and commodious, and inhabited by as intelligent and respectable families as any country can afford. Many villages have sprung up, exhibiting a growing commerce with its universal attendants, refinement and luxury. But this early and rapid advancement of Texas will not seem strange when we reflect that 3,000 Americans are there occupying a fertile soil under a genial climate, and with their accustomed energy and enterprize are developing the resources of one of nature's favored regions.

It may be well to add, that the mode of acquiring lands in the different colonies is simple, and the titles made secure and in fee. The assignment of lands has been to persons called Empresarios, (contractors) who stipulate to introduce a certain number of families within a given time, and no person can within this period acquire lands in the district of the Empresario without his consent. This consent is obtained by a certificate stating the family received and the quantity of land allowed them, which is presented to a commissioner appointed by the Government for making titles, who immediately orders a surrey, and upon its return, makes a deed to the settler and the title passes direct from the State to him. The law allows a married man to have not exceeding a Sitio, equal to 4428 English acres; and a single man with one fourth that quantity, with a privilege of extending it to a Sitio when he gets married; and a foreigner marrying a Mexican woman is entitled to one third more. On receivtng the deed from the Commissioner the colonist takes an oath to support the constitution and laws of the country, by which two acts he becomes a citizen. There is no tax on land nor on any other property, and the emigrants are allowed to introduce all articles for their own use free of duty.

borders of the United States, between the latitudes of 29 and 33 degrees; and the salubrity of the climate, and fertility of the soil, allow of the cultivation of the vine, sugar cane, cotton, wheat, Indian corn, &c. &c., and their universal natural pastures afford ample subsistence for cattle and other stock at all seasons of the year.

The approach to the country is either by sea to Galveston Bay, or by the Mississippi and the Red River to Natchitoches, and thence by land fifty miles to the Sabine river, which is the dividing line of the United States and of the company lands. There is a good road from the ferry on the Sabine to Nacogdoches, 60 miles, through a well settled country; and the whole distance from New York may be performed in fifteen days.

The law of the 6th April 1830, which prohibited the citizens of the United States from colonizing in Texas, has been repealed, and the people of all countries, of good moral character, will now be admitted into the grants which the undersigned represent, without exception.

By a law of the last session of the Legislature, Texas has been organized into a separate judicial district; the right of trial by jury is secured in all cases civil and criminal; the proceedings of the courts are required to be in the English language, and a judge of ability, formerly an American citizen, has been appointed, who is now in the exercise of his office.

Captain Archibald Hotchkiss has been appointed the Agent of the Empresarios. He resides at Nacogdoches, a central point to these grants, and has there opened an office for the reception of colonists.

Major George A. Nixon, who has been appointed Commissioner of the Government for making titles to the lands, also resides and keeps his office at Nacogdoches.

According to law, no person can settle in any Empresario contract without the consent of the Empresarios, and this consent is an indispensable prerequisite to obtain a title from the commissioner of the government. The scrip, or certificates of admission into the colony, which have already been issued, convey this consent, and the holders thereof will now receive title agreeably thereto for the quantity of land allowed by law, which does not exceed a sitio, or a quarter of a Mexican township for a colonist with a family, and a fourth part of that quantity for a single man; and by the 10th article of the law of the State of Coahuila and Texas, passed the 26th March, 1834, it is declared that no person shall be molested on account of his religious or political opinions, provided he does not disturb the public order: and by the same law, a foreigner holding land, and taking the oath to support the constitution and laws, becomes a colonist and a naturalized citizen.

The Trustees have in their possession documents to be shown to all persons, setting forth the fulness of their title; and will furnish those who are disposed to emigrate, and are not already provided, with scrip, or certificates of admission.

The Trustees will soon have agents stationed at NewOrleans Natchitoches, and Anahuac, on Galveston Bay, to facilitate emigrants in their journey to the lands of the company; and as soon as they are appointed notice will be given.

For further information, apply at the office of Company, No. 63 Cedar street, New York, or to William H. Sumner, Boston.

A. DEY, W. H. SUMNER, GEORGE CURTIS, } Attorneys and Trustees.

New York, 30th Sept. 1834.

At a meeting of the *Directors* of the Galveston Bay and Texas Land Company, held on the 29th September, 1834—present John Haggerty, George Griswold, Stephen Whitney, and Charles A. Clinton,—the report of the agent of the company, recently returned from Mexico, having been read and considered, it was, on motion,

Resolved, that the foregoing advertisement of the existing state of the Company affairs in Texas be published for general information in such newspapers in the United States, as the Trustees think expedient. By order,

WM. M. WILLSON, Sect'ry.

TEXAS.—The subscriber, having entire confidence in the title to the Lands of the Galveston Bay and Texas Land Company, of which he is a Trustee, will guarantee, if required, all scrip which he may sell on his own account; and will contract for colonists to be put on the lands. Apply (post paid) at the Office of the Company, No. 63 Cedar street, New York.

oct3 1m A. DEY.

SUMMARY.

ARRIVAL EXTRAORDINARY.—The Chinese lady with small feet, from three to four inches in length, arrived lately in the Superior, from Canton. She will, we are informed, be ready to see company next week.

Three blooded horses, (Chateau Margaux, Claret, and a brood mare) imported in the Hark Away, from Liverpool, by Messrs. Avery, Merritt and others, were landed safely from the ship, and arrived at Petersburg on Saturday evening.

We are requested to say, that passengers for New Brunswick, will leave New York in the steamboat Independence, at 6 o'clock, A. M. until further notice —to commence on Monday 20 inst. The 10 o'clock boat proceeds only as far as South Amboy.

[*From the Pensacola Gazette, Oct.* 4.]

NAVAL.—The United States Sloop of War Falmouth, and the Schooner Experiment, dropped down to the Navy Yard on Wednesday last. The former will proceed to sea as soon as she shall have shipped the necessary provisions for a cruize.

Garrison of Key West, F. Sept. 21, 1834.

To the Editor of the Pensacola Gazette.

SIR:—C. A. Thompson, late a passed Midshipman of the Navy, passed through the garrison early this morning, his actions were such as to create the belief that he was deranged. Two of the non-commissioned officers went in pursuit and found him in the edge of the woods just expiring.

Please insert this for the information of his friends.

Very Respectfully T. PAGE, Lt. U. S. Army, Commanding.

The Catholic Archbishop of Baltimore, the Right Reverend *James Whitefield*, died in that city on Sunday last.

He was by birth an Englishman. It is said of him, by the Baltimore American, that "his fortune was considerable, and it was generously consecrated to the purposes of religion. The Cathedral experienced his liberality, and the beautiful edifice of St. James's in our city, is a lasting monument of his munificence. Of him may be said, what can be said of few—he entered the career of honors in wealth, and left it poor."

Consecration.—The Church of Epiphany, located at the N. W. corner of Chestnut and Schuylkill Eighth streets, Philadelphia, was consecrated in a solemn and appropriate manner on Saturday last.—This is a beautiful edifice, and being the only church in Chestnut street, and with one exception, the only one in Philadelphia, west of Broad street, promises to succeed beyond the most sanguine expectations of the enterprizing gentlemen who were instrumental in building it. Its location immediately opposite Colonnade Row, and in a section that is rapidly improving, will materially tend to its success. The pastor, too, the Rev. Dr. Tyng, is one of the most eminent and popular of the Protestant Episcopal clergymen of that city. We are glad to learn that the congregation is already large, and it will, no doubt, rapidly increase.

Falling in of a Church.—The Lynchburgh Virginian says, that at about 9 o'clock on Sunday morning, a few weeks since, the second Presbyterian Church in that town, the basement story of which is brick, and the upper part of wood work, suddenly parted at the top of the walls, and the rafters, joists, &c. fell in with a dreadful crash, and strewed the whole interior with fragments of the ruins. The building is of very recent erection, and had given no indications of its frailty. Divine Service had been held in the church on the evening previous to the catastrophe; and it is fearful to contemplate the calamity that would heve resulted, had the building fallen an hour or two later, as the Holy Sacrament of the Communion was appointed for that day.

THE COTTON CROP.—Clayton & Burrritt's annual statement of the cotton crop, appears in their Shipping and Commercial list of Saturday. They make the whole crop,

	Bales.
From Gulf of Mexico,	641,435
Atlantic,	563,959
Total,	1,205,394
Exported,	1,027,429
Consumed,	196,935

This crop has proved to be 134,956 bales larger than that of the previous year which was itself more than 30,000 bales larger than any previous crop.

The consumption in this country appears, from the statement, to have been about the same with the previous year, the whole increase having been exported. Yet so great has been the increase of cotton manufacturing abroad, that the stocks remaining on hand at the end of 1834, will probably be a good deal less than were at the end of 1833.—[Journal of Commerce.]

BUSTS FREE.—Orders have been received from the Treasury department, based on the decision at Boston, directing that all leaden busts should be given up to the importers, and no further questions asked.—The fine arts will suffer dreadfully by this decision. Busts of Jackson, Van Buren, and all the great men, cast with such accuracy as, with a label attached, to be recognized by every body, whether acquaintances or not, will now be put into the melting pot, and under the hammer by thousands, and ignominiously treated as mere pig lead. This is as it should be. Whenever principles are settled by a suit, the government should cease its litigation. Instead of this, however, we have, in many cases, the same principles tried over and over. The iron case which was tried last week and decided in favor of the claimant, was as much like one before decided, as one bean is like another. The iron was bought of the same manufacturer, at the same price, and imported and entered in exactly the same way. We are glad to learn that since this second decision, an order has come from the Treasury to prosecute that point no farther. If the Secretary of the Treasury will look into affairs in this district, he will find a considerable number of old cases which were formerly prosecuted for no good purpose and in which great wrong has been done to individuals, and will continue to be done until the legal decisions upon them shall be honorably complied with.—[Jour. of Com.]

OFFICIAL.—Organization of the Marine Corps under the Act of Congress of the 30th June, 1834.

One Colonel.—Archibald Henderson.

One Lieutenant Colonel.—R. D. Wainwright.

Four Majors.—Samuel Miller, Lieutenant Colonel by Brevet. John M. Gamble, Lieutenant Colonel by Brevet. Samuel E. Watson, Lieutenant Colonel by Brevet. William H. Freeman, Lieutenant Colonel by Brevet.

Thirteen Captains.—Charles R. Broom, Paymaster and Lieutenant Colonel by Brevet, Levi Twiggs, John Harris, Thomas A. Linton, James Edelin, Parke G. Howle, Adjutant and Inspector. Elijah J. Weed, Quarter Master, William W. Dulany, Thomas S. English, George W. Walker, Ward Marston, Charles C. Tupper, A. A. Nicholson.

Twenty First Lieutenants.—James McCauley, Captain by Brevet; Benjamin Macomber, Captain by Brevet; A. N. Brevoort, Captain by Brevet; Andrew Ross, Richard Douglass, Job G. Williams, Alvin Edson, Horatio N. Crabb, Henry B. Tyler, Joseph L. C. Hardy, George F. Lindsay, Landon N. Carter, John O. Reynolds, Henry W. Fowler, Francis C. Hall, Thomas L. C. Watkins, F. N. Armstead, George H. Territt, William E. Stark, and Nathaniel S. Waldron.

Twenty Second Lieutenants.—William Lang, Jacob Zelin, Jr., Thomas M. W. Young, George W. Robbins, D. D. Baker, Archibald H. Gillespie, Geo. W. McLean, Benjamin E. Brooke, Edgar Irving, Jabez C. Rich, Thomas Theodore Sloan, Addison Garland, John Still, Louis F. Whitney, Frederick B. McNeill, John T. Sprague, Edward B. Grayson, Edward Lloyd West, Robert C. Caldwell, and John P. Dieterich.

Navy Department, Oct. 18, 1834.

[*From the Oxford Republican.*]

SERIOUS STAGE ACCIDENT.—The Catskill stage, while on its way to this place, and when near Unadilla, on the night of the 10th inst., met with a deplorable disaster. The horses took fright at some bloody cloths about a butcher's wagon which had been left standing by the side of the road—suddenly starting and precipitated themselves and the stage, which was loaded with passengers, down a deep declivity, by which one of the horses was killed, the coach crushed to pieces, and those within it more or less injured. Among them, we regret to learn, was Rev. Mr. Bush, of this village, whose collar bone was broken, and Mr. Cyrus A Bacon, of Owego, and formerly a resident here, who was severely bruised about the head. Mr. Bush was removed to Unadilla, where he still remains. The rest of the passengers who were sufferers by the catastrophe were enabled to proceed on their several destinations.

The steamboat *Nimrod* broke her crank on Sunday, near West Point, on her way down from Albany, having on board more than 300 passengers.

Signals were made to the Albany, then a few miles astern, to come along side and take off the passengers, but they were either unobserved or unheeded.

After the arrival of the Albany that evening, the Union steamboat was despatched, to bring down the Nimrod's passengers, and returned with them next morning.

The Steamboat *Union* in going up on Tuesday to Albany, in place of the Nimrod, broke her shackle bar off Yonkers. She was towed down that evening by the Champion.

We learn from the Wabash Courier, that the Elephant attached to the *menagerie*, while it remained in Coventry, Indiana, killed a man instantaneously, for having several times offered it tobacco. He had been warned to desist by the keepers; but did not regard their admonitions.

The same paper states that the Rhinoceros belonging to that company, died in Vermillion County, in that state, on the 26th ultimo. It was about three years old, one third grown; and in a very thriving condition.

Wm. Prince & Sons, proprietors of the Linnæan Garden and Nurseries at Flushing, have requested us to state that their *new* catalogues of Trees, Plants, and Seeds, *with reduced prices* will be sent *gratis* to every applicant throughout the United States, and elsewhere; and they ask the favor of all editors of newspapers to announce the fact, believing it will also be satisfactory intelligence to their subscribers.

[*From the Dunfries and Galloway Courier of July* 30.]

PAUL JONES—ARBIGLAND—AND LIEUT. PINCKHAM.

Towards the close of summer, 1831, the author of the following sketch received a note from a gentleman of the name of Pinckham, requesting an interview, and stating, among other things, that as an officer of the American Navy, he had obtained leave of absence for 12 months—the whole of which period, the inward and outward passage deducted, he intended to devote to the exploration of England and Scotland. A printed furlough, signed and sealed, according to the forms of the United States, the applicant was polite enough to inclose in his letter—to show, as he properly enough said, that he was "no impostor," but on the contrary a genuine representative, not certainly of a Royal but still of a most respectable and splendid Naval Service. The interview sought was of course granted, and from the first it was not difficult to learn that my friend, in crossing the Atlantic, had been chiefly influenced by a burning desire to visit the land of Scott and Burns, as well as the birth place of Paul Jones, whose memory he venerated to the point of idolatry, not only as a brother sailor and adopted citizen of America, but above all as the first man who *dared to hoist* the flag of Independence on the gigantic waters of the new world.

The vessel in which Mr. Pinckham embarked touched at Cork, and from that point our pilgrim wandered, in pedestrian guise, over a great part of Ireland, noting and treasuring many things for future cogitation. On this and some other occasions his outfit was the simplest that can be well imagined.—Perfect freedom and lightness were the great requisites the American studied; and hence his faded suit of blue uniform, knapsack containing a change of linen, materials for writing, and a few books and mathematical instruments. During his run through Ireland, he found much to admire: the vale of Avoca inspired his Muse, and he was equally charmed with th Lakes of Killarney, and the numerous intervening spots so graphically depicted in the following couplet:

"The stalwart mountains league to bulwark in
One little Eden from a world of sin."

From Dublin he found his way to Liverpool, and from the Mersey to the Nith. The captain of the trader in which he sailed discovered that he was a sailor, and on that ground, with true fraternal feelings, sternly refused to accept a single farthing in the name of passage money—an instance of generosity which Mr. Pinckham had never experienced in his own country, and one to which he frequently recurred as not only demanding a suitable return (afterwards made) on his part, but as in the highest degree honorable to the Scottish character. Towards the venerable relict of Robert Burns the stranger cherished feelings of the greatest respect, and having learnt that I might be useful to him in procuring an introduction, he applied to me by letter as has just been stated; and hence the accident by which I came in contact with an American tar of the right sort—a gentleman of probity, talent, and taste, whose appearance, mind, and manners, I shall not speedily forget.

At the period of which I speak Mr. Pinckham was not only prodigiously stout, but beyond all comparison the most weather-beaten man I ever beheld. Indeed I question whether Capt. Ross himself was a whit more so when he first arrived from the North Pole, and but rarely, if ever, has old Neptune had a fitter representative. His age might be thirty-two or a little beyond—his height five feet ten or eleven inches; and then such a chest, neck, and shoulders! Limbs more muscular I have never seen. A single glance riveted attention and convinced you that the owner was indeed a Hercules whom it would be dangerous to tamper with in a dark night and on a lonely road. Captain Brown rendered Dandy Dinmont especial service during his tussle with the gypsies, and though both are described as powerful men I question whether either of them would have had any thing to boast of in a mellee with the brawny American. Agile as powerful, his movements were totally unimpaired by fat: from the crown of the head to the sole of the foot he was one compact compound of bone and muscle, nerves of steel, and sinews of iron; and my impression was and still is, that Pinckham, had he chosen to turn his attention to a calling so disreputable, would have proved an over match for all the prize-fighters in England.—There is something truly spirit stirring in contemplating a noble specimen of manhood, and in Mr. Pinckham's presence I confess I felt as a dwarf at least ought to feel when confronted with a giant.

From the description thus given of Mr. Pinckham's outer man, it may be supposed by some that his Dirk Hatterackship in person bore some resemblance to the commander of the Black Prince in rudeness of manner and recklessness of character. But never was inference more unfounded. Gentler manners or a softer heart I have rarely, if ever, seen exemplified. During all my intercourse with him I never heard an oath escape his lips, or the slightest boast as to the perils he had braved, or the honors he had won. To me it appeared that his mind, if any thing, was over sentimental; and no one could have supposed, *à priori*, that a soul so refined lodged in a frame so masculine and weather beaten. Indeed, so far as I could judge, the stranger was a man of much sensibility, and had not only a fine eye for natural scenery, but was feelingly alive to the sublime, the picturesque, and the beautiful, whether as witnessed in the works of nature or reflected on canvass and through the medium of books. During his first visit to Dumfries my family happened to be located on the coast for the benefit of air, exercise, and bathing; and as I was thus somewhat lonely, I occasionally invited him to tea or supper. On these occasions the conversation turned chiefly on British and American literature, and more particularly the poets and belles-lettres writers of both countries. In this department of knowledge, he was quite at home, quoted readily and aptly, and although his taste leaned to the sentimental, evinced in all his remarks, critical acumen and sound discrimination. Sometimes, too, we talked of politics, and glanced cursorily at the Republican Institutions of America and the monarchy of Britain. And here I found my friend remarkably reasonable in his views and feelings. However warmly attached to the land of his nativity, he was not one of those who in their zeal denounce everything that is anti-American, and with difficulty admit that any good thing can exist on this side of the Atlantic.—On the contrary, he acknowledged that he had seen many things in Britain which challenged his warmest approbation, and repeatedly said that the spirit of partisanship was in itself an evil, and that great good might accrue to the whole human family, were mankind, in place of yielding to the feelings of Nationality, dispassionate enough to address themselves to the profitable task of comparing notes and of taking lessons from one another. Mr. Pinckham, I may further mention, frequently regretted that his education had been defective, and expressed so strong a desire to improve himself by every means within his reach, that I have no doubt whatever he will yet figure as an author himself, and add considerably to the stores of trans-Atlantic literature. During his sojourn in Dumfries he led a most active life, and in fact, never was a moment idle, except when cogitating with pipe in hand, in the snug parlor of his little inn; and on these occasions he reminded me of a sonnet written by Old Ralph, or Ebenezer Erkine, the burthen of which is,

"Thus think, and smoke Tobacco."

During the day he made pedestrian excursions to the country, and carefully inspected every spot venerable from antiquity, or endeared by classic association.—Friars' Carse Hermitage, where Burns penned one of his finest moral effusions—Ellisland, where he resided, farmed, and composed, almost at a single sitting, "Tam O'Shanter," and "Mary in Heaven," Lincluden, which he loved and immortalized, with the opposite banks, along which he walked and pondered towards nightfall, while contributing so many lyrics to Thompson's Miscellany—were each and all visited in turn by the curious American; and even now when far away, if I may judge from his enthusiasm, are treasured and recalled as some of the "greenest spots in memory's waste." On other occasions he visited Newabbey, Bruce's Castle at Lochmaben, and Cearlaverock on the Solway, of which Gross weened so highly, that his drawing of its figures as the front piece to the Antiquities of Scotland—

Cearlaverock! by the Solway's side,
Great were thy pristine power and pride—
When half the warriors of the land
Woke when a Maxwell gave command!

At all the places mentioned the American executed drawings, and collected relics. On inspecting some of the latter I had considerable difficulty in preserving my gravity—so different is the domestic from the far-away feeling—and when I remonstrated against any farther accumulation, on the ground that they would render the wallet too heavy, he playfully said that nature had anticipated his new vocation, and moulded his shoulders tolerably well for the burden. Among other things, he told me that his father had commanded, for a number of years, a South Sea Whaler; that his mother, for a few seasons, accompanied him in some of his protracted voyages, and that in this way, he had not only been born, but cradled on the deep. But this arrangement was of brief duration; the domestic duties and care of her family soon conspired to keep the good matron at home; and, on one occasion, when his father traded to Britain, he brought home a copy of Burns' Poems, in compliment to his wife, who was of Scottish extraction. The good woman prized the gift highly, and young Pinckham was equally delighted. The possession of such a treasure threw an unknown charm over his existence, and the most thrilling moments of his life were those which he passed in perusing and re-perusing the Works of the Ayrshire Ploughman, until nearly the whole of them clung to his memory, and had become as familiar to the memory as a household word.

At length my friend, after having seen every thing noticeable in Dumfriesshire, called to take leave.—During every interview he had won my friendship more and more; and I confess a tear dimmed my eye as I cordially grasped his proffered hand, and reflected that ere long half the convex world would roll between us. On this occasion he tendered an address, which he said would find him in any part of America, and at the same time warmly invited me to visit the new world, and recommend intending emigrants to his notice. To accept such an invitation would be to me the highest gratification, but I fear the day of accomplishment is so distant as to be hopeless, although I have no doubt whatever, that the good Lieutenant spoke sincerely, and would realize, barring impossibilities, his promise of meeting me in any part of the United States, even if a thousand miles should intervene.

About six weeks subsequent to the period of which I am speaking, and while I was preparing to attend a horticultural society dinner, I received, not without surprize, a note from Lieutenant Pinckham, stating that he had returned to Dumfries, and wished to consult me upon an affair, which, to him at least, was of great importance. As my time did not admit of this, I, in a brief reply to this communication, invited him to attend the dinner as my guest, and before long had the pleasure of seeing him enter the room. In the course of the evening allusion was made to the stranger—a compliment which he acknowledged with his accustomed modesty, and with a degree of eloquence which at once pleased and surprized the party. Next day we entered on business, and before many minutes had elapsed I learnt the true secret of his re-appearance on the banks of the Nith.

On bidding adieu to Dumfries, as he believed forever, the stranger bent his steps in the direction of Arbigland, a beautiful estaste on the Galloway banks of the Solway Frith, and distant from Dumfries about fourteen miles. Nothing can be finer than the situation of Arbigland, with the sea in front, and Criffel in the rear, a very high mountain of solid granite, and the weather-glass of the country for many miles around—

"When Criffel he puts on his hat,
Screel soon hears word o' that."

From the top many wonders may be described, such as Goatfell, in the island of Arran, the whole length and breadth of the Isle of Man, many distant places in England, with other phenomena, strikingly illustrative of the principles of trigonometry. Skiddaw, Helvellyn, and Saddlebac tower right in front, and when sun-lit and furrowed into mile-long shadows, seem to be nodding recognition to their brother mountain that bulwarks so imposingly the Scottish strand. Arbigland is admirably wooded and sheltered, and commands the most delightful view of the coast of Cumberland—distant in a direct line little more than a dozen miles. Every sail that passes can be recognized; behind the lawns is a sheltered bay in which vessels frequently anchor for safety; from the shelving nature of the ground the tide rarely recedes so as to leave an unsightly waste of sand; and on some occasions in summer tall masts may be seen all but interlaced with the towering branches of living trees. Timber thrives charmingly, even where over-looking the deep green waters that ripple round its roots; and it would be difficult to name a spot where flowers, even of the rarest sorts, attain the same size, and possess equal richness of that tint and gracefulness of odour. The adjoining estate of Cavens, the property of Mr. Oswald of Auchencruive, is equally favored in this respect; violets and wild hyacinths spring up in myriads, and at the proper season it is impossible to visit either spot without recalling the well known passage—

——"Like the sweet south
Fresh breathing o'er a bank of violets,
Stealing and giving odor."

Shakspeare, on alluding to the Castle of Macbeth, and the instincts of the Martlet, says most beautifully—

"This Castle has a pleasant seat: the air
Nimbly and sweetly recommends itself
Unto our gentlesenses.
——— this guest of summer
The temple haunting Martlet, doth approve
By his loved mansionry, that the Heaven's breath
Smells wooingly here; no jutty frieze,
Buttress, nor coigne of vintage, but this bird
Hath made his pendant bed and procreant cradle.
Where they most breed and haunt I have observed
The air is delicate."

But powerful as are the instincts of the swallow-tribe they are perhaps surpassed by those of the starling, and it is impossible to pay a higher compliment to the climate of the parish of Kirkbeam than to say that starlings, though migratory in other places, remain stationary at Carvens and Arbigland during the greater part of the year, and build in the woods in considerable numbers. The young when fledged are highly prized, and bring handsome prices on account of their musical and speaking powers. Nor is Arbigland, amidst much that charms the eye and gladdens the heart, by the happy intemixture of wooded mountain, and marine scenery, altogether wanting in classic association. It was here that Paul Jones was born, and that Allan Cunningham first saw the fair one whom he afterwards married.—It was here, too, that the late Dr. Edward Milligan grew to man's estate, studied with all the ardor of a Joseph Scaliger, and hewed for himself a path to eminence, amidst obstacles as formidable as the compact granite of his native Criffel. The father of John Paul was gardener at Arbigland, and the present proprietor, D. H. Craik, Esq., when a boy, sometimes accompanied him in a ramble to the mountains, and when tired was carried on the future admiral's back. Carsethorn, a small adjoining seaport, forms part of Mr. Craik's estate, and in all probability it was by seeing ships and conversing with cabin boys, that the man whose name has been so much renowned, abjured all thoughts of his father's trade, and betook himself in the merchant service to a seafaring life. Even when very young he exhibited many proofs of decision of character, and of that power which a strong mind exercises over weak ones. His playmates were drilled to the strictest subordination, taught to manœuvre their cock-boats *secundum artem*, and mimic the turmoil of a naval battle, while the future hero stood on some eminence and sonorously gave the word of command.—All this of course happened many years ago, and when Mr. Pinckham visited Arbigland, the cottage in which his adopted countryman was born, was roofless and a ruin—a spectacle which affected him even to tears. Having made a drawing of it, he withdrew slowly, and not without casting many a wishful look behind, until at length some undefinable feeling shaped itself into a determination to repair, if permitted, at his own expense, a ruin so interesting. Still there were many difficulties in the way. Of the proprietor he knew nothing, and durst not introduce himself, and even had he been bold enough to do so, he considered it the reverse of probable that Mr. Craik would listen favorably to the singular request of a weather beaten stranger. Under these impressions he prosecuted his journey, visited the land of Burns, Glasgow, Greenock, Loch Lomond, Loch Katrine, and the western Highlands, and was in good hopes all the while that the romantic wish he had formed would in the end wear off.

From Stirling he embarked in a steamer for Edinburg, and found much to admire in "the City of Palaces." But as his time was limited he again bent his steps southward, and threaded, as was his custom, in pedestrian guise, the classic vales of the Tweed and the Yarrow. With Melrose and Dryburg he was greatly delighted; while, on the other hand, he experienced the keenest disappointment when he discovered that the waving broom of Cowdenknows, which his imagination had painted so long and yellow, exists only in ballad history, and has long been displaced by fertile crops of wheat, oats and barley. Arrived at Abbottsford, he addressed a note to its illustrious owner, who was then in very delicate health, intimated his profession, his object in wandering so far from home, and requested an interview "were it only for a minute." But kind and indulgent as Sir Walter was, he found it necessary to deny the boon craved—a refusal which preyed on Pinckham's spirits, and to which he often reverted in terms approaching to bitterness and anger. In this we considered him somewhat unreasonable; it is true he had travelled far, and might be pardoned in craving a passing glance of the most illustrious man of his day; but thousands on thousands have cherished similar feelings, and literary enthusiasm seems to have blinded my friend from the fact that public curiosity is one of the heaviest penalties that attaches to greatness. Of the Ettrick Shepherd he had often heard, and was well acquainted with his poetical works; but before he reached Altrive Lake the day was so far spent that he requested a knot of persons he overtook on the road, to direct him to some cabaret where he might lodge for the night. But there was no such place at hand excepting one, previously engaged; and as he was too modest to intrude on Mr. Hogg at such an hour, he entered a small plantation, selected the driest spot he could find, hoisted and laid flat his umbrella as a protection to his head, and stretched himself at rest with the greatest sang froid—his bed the cold earth, and his curtains a leafy screen and the open sky. To ordinary men the consequences of such an experiment would have been a terrible cold, asthma, or consumption; but the Lieutenant is so far from being an ordinary man, that in as far as physical strength goes he might have figured as henchman to the hardy chieftain of whom Sir Walter Scott tells the following story. During a winter hunting excursion old Sir Ewen Cameron of Lochiel, was overtaken by night, lost his way, and having no cover to flee to, was compelled to call a halt and desire his tail to rest as they best could till the following morning.—Snow covered the ground; but as this was nothing in the days of thews and sinews of iron, highlander after highlander wrapped themselves in their plaids, and slept more soundly on a heathery couch then bilious citizens sleep on beds of down. Among the party there happened to be a young man, grandson to the chieftain, who, with the view that his head might lie higher than his feet, was observed rolling a quantity of snow together. But the wrath of Sir Ewen was roused by what he conceived to be a system of degenerate luxury, and rising from his lair, and kicking the frozen snow ball from the head it supported, he exclaimed, *Out upon thee, art thou become so effeminate as to require a pillow?*—Mr. Pinckham, however, escaped the snow, and tired as he had been with the fatigues of the day, enjoyed the most profound repose until the song of birds, the bleating of sheep, and the busy hum of industry awakened him to the enjoyment of the scenery of a sweet pastoral valley, arrayed in all the matron graces of autumn. Previously it had been too late, and now it was too early, to wait upon the shepherd; but it was easy to while away the time by strolling as far as St. Mary's Loch—a sheet of water, beautiful in itself, which has long been married to immortal verse in the writings of both Scott and Hogg. At a fitting hour Mr. Pinckham met the author of the Queen's Wake, and apologized for the unshaven chin, and general dishabille, by stating that he had been in camp and not in quarters, and that camp not one of the most comfortable. Our old friend may have his failings, like other men, but inhospitability is not one of them, and again and again he expressed his regret that the stranger had not come to him at once, in place "o'lying out-bye like the gipsey bodies, and wi' far fewer haps than they carry in their creels." A splendid Scottish breakfast followed, to which the Yarrow lent its aid in the shape of trouts caught by the Shepherd's own hand; and after much conversation mine host was so much pleased with his guest that he gave him a lengthened convoy and the benefit of a half hour's crack on a sunny knowe overlooking the Loch of the Lowes, and its sister St. Mary's. These, and other facts, I learnt from my friend when he arrived in Dumfries; and now the great thing was to put matters in train for the execution of the romantic project he had formed. An introduction to Mr. Craik was immediately procured; but twice he had the misfortune to miss the proper opportunity of presenting it personally. But his enthusiasm, so far from being damped, rose with the occasion; and though he himself thought the scheme romantic, and had hoped that lengthened travel would banish the impression, he candidly confessed that it had deepened every foot he trode. On the third occasion, he saw the proprietor of Arbigland, was favorably received, and constrained to pass the day under his roof. From the first that gentleman had determined to grant the sailor's request; but the conversation for a long time ran on Paul Jones, America, and many other subjects, and the poor Lieutenant was beginning to despair, when, as by accident, allusion was made to the nature of his errand. Mr. Craik at once said that he was welcome to do what he pleased with the cottage, and but rarely have words more welcome and encouraging fallen upon mortal ear.

Mr. Pinckham was quite overjoyed, returned to town a happy man, and next morning deposited with the writer twenty-five sovereigns to be employed in the repairing the cot in which Paul Jones was born, so as to render it habitable. This, considering the mode in which he travelled, and the economy he found it necessary to practice, was unquestionably a great stretch of generosity—to say nothing of the hundred and odd Scottish miles he had travelled out of his way to give, if possible, a palpable form to his enthusiasm. As the season was then far advanced operations were delayed till the following spring, when estimates were received, and the house repaired in the most tasteful manner. And it is due to Mr. Craik to say that he by no means squared the expenditure by the sum received, but on the contrary gave freely from his own purse. The site of the cottage is a glade in a thriving wood on the shores of the Solway, with a green in front, fancifully railed in, and tastefully ornamented with evergreens, flowers, and flowering shrubs. Inside and out it is a trim cottage which may vie with similar buildings in England, and as the walls are whitened annually with the finest lime, it is become a sort of landmark to nearly every sail that enters the Solway. The widow of a fisherman who died under highly distressing circumstances, and who owes much to the humanity of Mr. Craik, tenants it rent free, and will probably close her eyes under its honored roof; and as this fact is generally known, almost every tar in passing the spot, doffs his bonnet in token of gratitude, and says "God bless the kind Lieutenant Pinckham."

[*From the Boston Courier.*]

ELLA OF GARVELOCH,

ONE OF MISS MARTINEAU'S MOST INTERESTING AND BEST DEFINED CHARACTERS.

Methinks, e'en now I see thee,
Sweet denizen of yon rude isle,
Far, far away upon the emerald sea;
How firm, in majesty, thy form,
How bright, 'mid ocean's wildest storm,
Thy love enkindled smile!

There, as the coral flower?
Sublimely reared beneath the sunless deep,
Urged by affection's holy power,
Calmly thy duteous sacrifice was done,
Meekly thy wreath of heavenly glory won,
As infant's placid sleep.

Not for the world's behest
Did the bright curlew's plumes adorn thy hair,
But to wake joy within a gentle breast,
Where the spirit's light burned dim and low,
And the course of thought moved sad and slow,
While love was fervent there.

Gladly didst thou look out,
Upon the Stern—*his* lone loved eyry,
And wert glad at every merry shout
He joyous echoed to the wailing cry
Of the swift wild-fowl, circling by,
With startling minstrelsy,

Oh! there is beauty in a life
Of truth, unmarred by passion's shock,
Unstained with worldly strife,
And yet of sinewy virtue,—pure and free:
And such was thine, blest daughter of the sea,
The humble Garveloch! H. T. T.

UTICA AND SCHENECTADY RAILROAD COMPANY.

PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—

For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Sanders' Flats in Schenectady, and the western boundary line of the town of Herkimer;

For the masonry within those limits, embracing the culverts, and the abutments and piers of the repective bridges; and

For the wooden superstructure of bridges across the Cayadutta Creek at Caughnawaga, the Garoga Creek at Palatine Church, the East Canada Creek at Manheim, the Gulph at Little Falls, and the West Canada Creek at Herkimer.

The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned.

Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.

The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known, at Schenectady on the 29th day of October, when it will be required that the grading proceed without delay, wherever, and soon as titles to the lands are acquired by the company; that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1835. Contractors to furnish security for the faithful performance of their contracts.

The use of ardent spirits to be prohibited in constructing the road.

Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1834.

G. M. DAVISON, Commissioner
s-17 to27 Utica and Schenectady Railroad Company.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.
Tro N. Y. July, 1831.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, *warranted* of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures here after, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

ALSO—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of *Farmers*.

W. THORBURN,
347 N. Market st. (opposite Post Office.

*** Mr. Thorburn is also Agent for the following publications, to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, *Daily, Tri-Weekly*, and *Semi-Weekly*: either or *all* of which may be seen, and obtained by those who wish them, by calling at 347 *North Market street, Albany*. tf

---

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the county.

Published at 35 Wall street, N. Y, by
A12 tf D. K. MINOR & J. E. CHALLIS.

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street,
J31 6t corner of Maidenlane.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

☞ Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13-1y

---

RAILWAY IRON.

☞ Ninety-five tons of 1 inch by ¼ inch, 200 do. 1¼ do. ¼ do., 40 do. 1¼ do. ⅜ do., 800 do. 2 do. ⅜ do., 800 do. 2¼ do. ⅜ do. soon expected. } *Flat Bars* in lengths of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels

Axles of 2½, 2⅝, 2¾, 3, 3⅛, 3¼, and 3½ inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

---

TO RAILROAD COMPANIES.

☞ The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few setts wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a 30

LOCOMOTIVE ENGINES.

☞ THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1-2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 2d, 1833.

Fr further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad

No. 264 Elizabeth street, near Bleecker street, New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlæm Railroad, now in operation.

J25 tf

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming aquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Rail road Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m25